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FIRE ENGINEERING

APRIL
1960

The Journal of the Fire Protection Profession Since 1877

A Reuben H. Donnelley Publication

Memphis firemen employ heavy artillery at four-alarm blaze on March 4. Fire occurred a few hours after Instructor's Conference adjourned

—Press-Scimitar photo by Ken Ross

West Haven Modernizes with MAXIM

Here at West Haven, Connecticut you see an outstanding picture of fire department modernization, including a new MAXIM aerial and pumper . . .

Consult us for the latest word in modern fire apparatus . . .

MAXIM MOTOR COMPANY **MIDDLEBORO, MASSACHUSETTS**

MAXIM MOTOR COMPANY MIDDLEBORO, MASSACHUSETTS

PREPARED FOR DISASTER?

Approved by OCDM For Matching Funds!

Spring, welcome as ever, has a habit of bringing floods, tornadoes and other material disasters. Meanwhile man-made holocausts continue to spread death and destruction.

Lives can be saved with an adequate warning system!

Every Municipality *needs a good disaster signal* or a system of them.

FEDERAL now offers three-way service signals that provide the prescribed OCDM Alert and take-cover, plus *A THIRD DISTINCTIVE SOUND FOR FIRE!*

You combine the function of Civil Defense and fire warning *in one unit. ONE SIREN DOES THE WORK OF TWO!*

Lower first cost!

Less for installation and maintenance!

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FEDERAL SIGN and SIGNAL Corporation

13602 S. Western Ave., Blue Island, Ill.

FIRE
ENGINEERING

VOL. 113 APRIL, 1960 NO. 4

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Coming Next Month

For several years past, the May issue of FIRE ENGINEERING has been devoted to the many problems of industrial fire protection. Next month we will continue this custom and have scheduled several articles we feel are of importance to the field.

A staff report of fire protection at a major plastics producing plant will lead off, followed by a discussion of sealing fire-retardant-treated wood building construction materials. The development of efficient fire-resistant air filters for industrial purposes will be included, as well as a report on fire protection methods in use at a major eastern oil refinery.

Municipal fire protection is not overlooked, despite the concentration on the industrial side. The modernization program presently under way at Portland, Oregon's fire bureau will be thoroughly covered and the first installment of the Grand Rapids report of the Civil Service Classifications and Examination Committee, International Association of Fire Chiefs, will appear. The latter is considered one of the finest administrative studies ever to be heard at an I.A.F.C. conference.

We believe the forthcoming industrial issue will be an important contribution to the science of fire protection. We are confident you will agree.

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UNISPUN fire hose is engineered for the modern fire fighter. A major scientific breakthrough from ordinary methods of *weaving*, UNISPUN hose is formed instead by *spinning*. High performance fibers, after blending, are *spun* into constructions at high rotational speeds with extreme precision and uniformity. This new capability to produce *spun* tubular fire hose, another exclusive FABRIC achievement, is an effective assist to the modern fire fighter in search of the best equipment. For further details, write us today or contact your authorized FABRIC representative.

Spun formed to these PERFORMANCE specifications

ZERO TURNS ZERO WARP ZERO RISE

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first in fire fighting for over 50 years!

Waukesha has been building engines for fire equipment for over fifty years. Since one of its first internal combustion engines for fire fighting service was sold to the Chicago Fire Department in 1908, Waukesha has built into these fire engines quick acceleration, flexibility, immediate response to varying load demand, and the reserve of extra power needed for emergency overload.

Waukesha Fire Fighter Engines are in use throughout the United States, and in many foreign countries, in the finest fire equipment built by leading manufacturers.

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WAUKESHA MOTOR COMPANY, WAUKESHA, WIS. • New York • Tulsa • Los Angeles
Factories: Waukesha, Wis., and Clinton, Iowa

...up to 300 hp

477

Checking on performance of Waukesha Fire Fighter Engines.

No quibbling about quality with firemen in a hurry

B.F.Goodrich hose pays back the extra pennies it costs

WHEN firemen rush to put out a fire there's no quibbling about whether quality hose is necessary. The extra seconds needed to get heavy, bulky hose into action, replace a blown out section or put on more hose for longer lines are all it takes to wipe out the money saved on "just as good as" hose. Quality features in B.F.Goodrich hose that prevent these delays add only a few cents per foot to its costs, but are worth much more when the pressure's on.

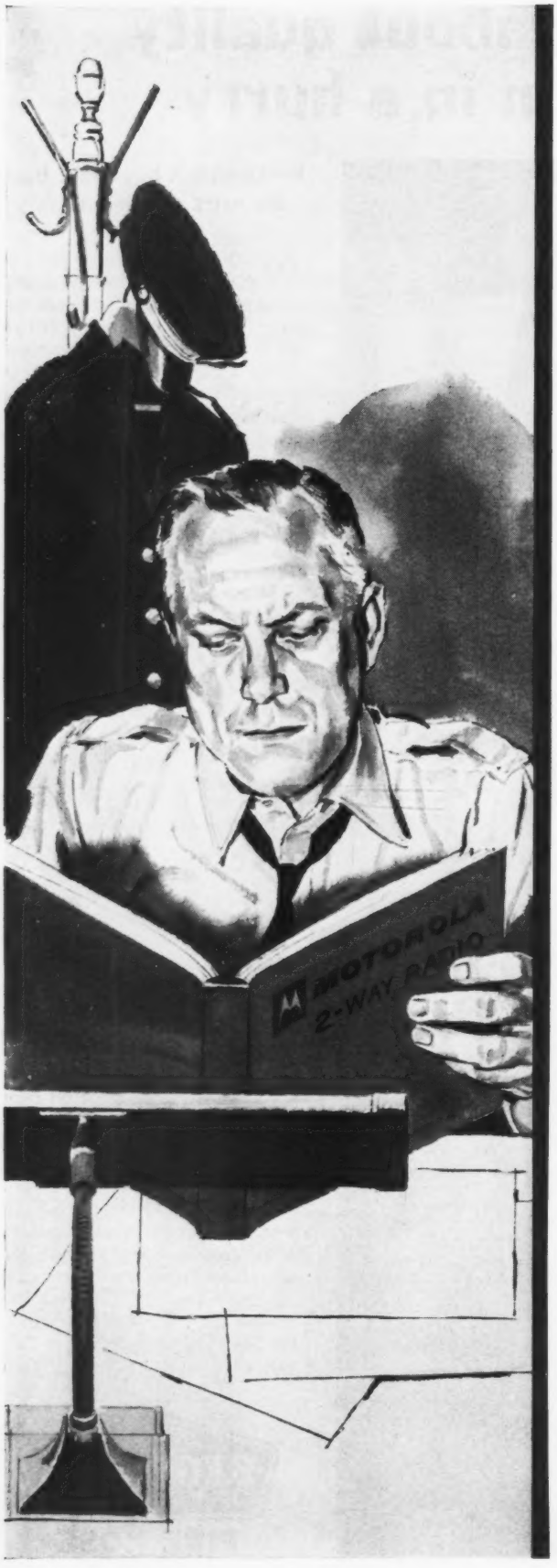
For example, B.F.Goodrich hose is as strong as heavier hose, but much lighter and more flexible. That's because of the "filler" cords of Dacron fiber which go around the hose and carry the load under pressure. Dacron cords are thinner, and three times stronger than cords used in ordinary hose. The hose not only lasts longer, but is easier to handle, and coils tighter—so that hundreds of extra feet can be racked on a truck.

Not one length of this hose has ever failed at the coupling. That's because of its Plylock end protection, an extra layer of hard woven cords extending 12″ from the coupling, which adds 100% more strength to the coupling area.

Superseal is a special treatment that practically eliminates mildew as a hose killer. This exclusive B.F.Goodrich treatment for hose gives 10 times more resistance to mildew and rotting than ordinary treatment.

If you're looking for a good buy in hose, get the B.F.Goodrich fire hose with all these quality features. It may cost more to begin with, but will actually cost you less in the long run. Your B.F.Goodrich distributor can tell you more about it. *B.F.Goodrich Industrial Products Company, Dept. M-824, Akron 18, Ohio.*

B.F.Goodrich
FIRE HOSE



The Town's Most Careful Buyer

is working late again tonight!

As a purchaser of equipment on which *lives* may depend, you naturally spend a lot of time *comparing* before you specify. So, when it comes to equipment as intricate as 2-way radio, you've got a real job on your hands.

That's why Motorola has a Factory Sales Engineer nearby. He's there to help you plan a system that's custom-tailored to your needs. He can do this job best—because he can plan from the largest selection of equipment available anywhere. And he's backed by an army of electronic specialists—from engineering through production to factory supervised service stations.

What about performance on the job? That's your most important consideration. And that's where Motorola has built its reputation—*on the job*. When the chips are down—when men *must* rely on their equipment—Motorola has proved itself so often it's the choice of 3 out of 4 radio-equipped police and fire departments.

Do you have all the facts on the new Motorola radio units ready now for your new installation, or to bring your present system right up-to-the-minute in efficiency and economy. Call or write for the latest information today.

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- bracing tunnel walls
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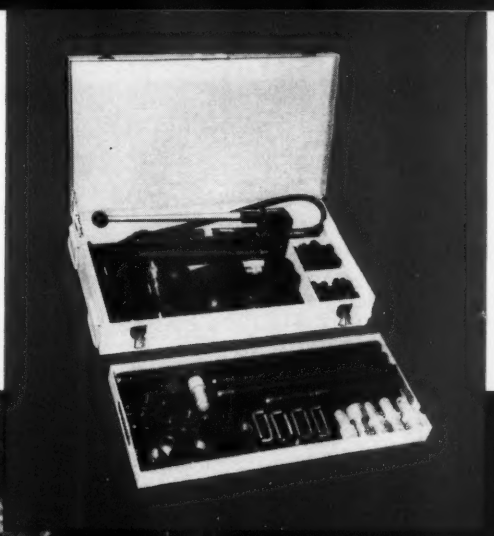
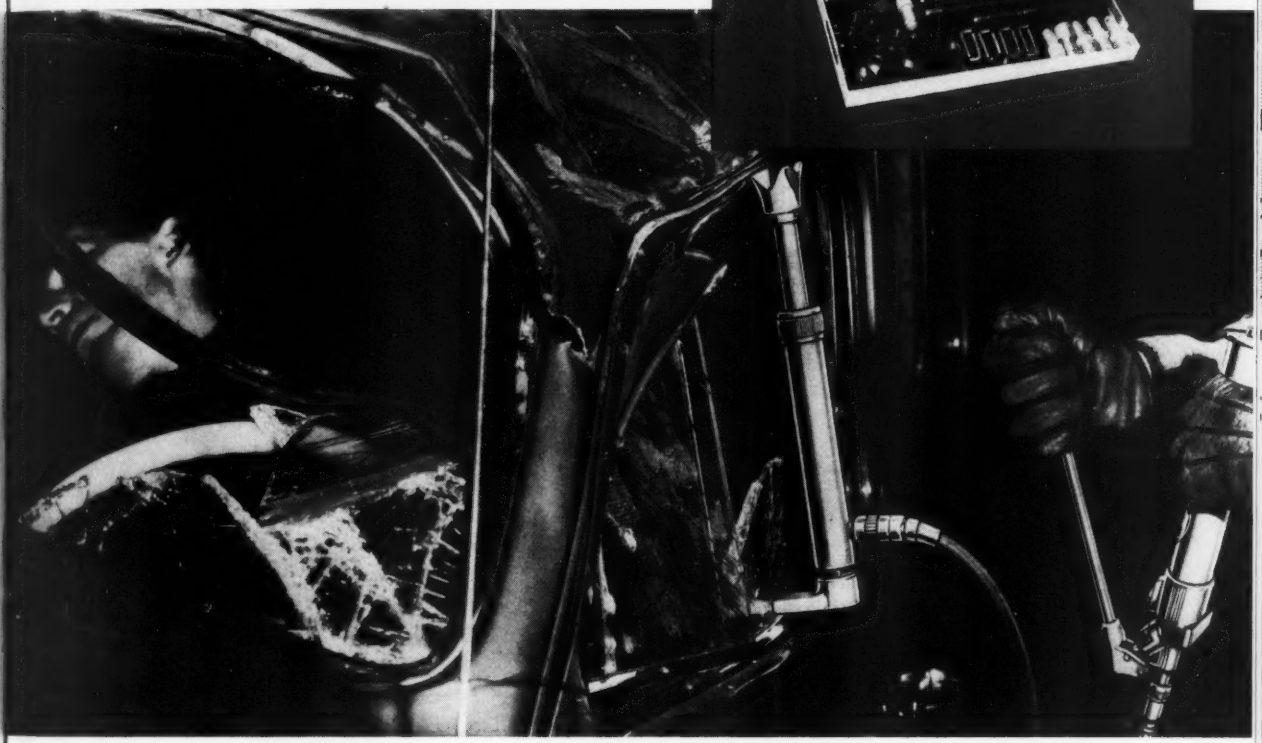
Complete assortment of work attachments lets you push, pull, spread, lift, clamp, and press to help extricate the victim.





M-S-A® PORTO-POWER* HYDRAULIC RESCUE EQUIPMENT

frees accident victims with tons of controlled power

M-S-A Porto-Power equipment saves lives. The principle is simple. The applications are wide.

The business end of Porto-Power is a hand-powered hydraulic pump connected by a long, flexible hose to a hydraulic ram. Quick, adaptable attachments offer a number of combinations for rescuing trapped victims.

You can work from any direction with Porto-Power. The ram works on its side, upside-down, or at any angle. Mere *pounds* of handle effort on the pump give a rescuer *tons* of power to free a victim.

Porto-Power Hydraulic Rescue Equipment is made by Blackhawk for MSA in three versatile sets: 4-ton, 10-ton, and 10 and 20-ton. Each set is available with a carefully selected assortment of attachments. Compact carrying case has easy-access compartments. Write for new bulletin.

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MSA® SAFETY EQUIPMENT HEADQUARTERS

MSA backs up its label with selection, quality, research, experience

John BEAN BUILDS THEM BETTER

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John Bean original high pressure fog is a scientific, proven fire fighting method distinguished from all other types. Operating at 850 psi, the rugged John Bean pump produces microscopic fog particles discharged from the patented Bean Fog Gun. Driven at high velocity to the base of the fire, these particles have many times the surface area and heat absorption power of a low pressure stream. So much so that one gallon of water as high pressure fog has the fire killing power of ten or more gallons discharged in a volume stream.

SQUAD AND RESCUE UNIT

High pressure fog fire fighter specially designed for rescue. Ample storage capacity with spacious, weatherproof compartments. 500-gal. water tank.

HPF* FIRE FIGHTER

Ideal for rural fire protection where water supply is limited. Equipped with original high pressure fog*. Full, 500-, gal. water tank; compartmentized body.

CLASS "A" TRIPLE COMBINATION PUMPER

Triple combination pumper with Class A centrifugal volume pump for 500, 600 and 750 gpm performance. Forward control chassis with compartmentized body.

MODEL 400-F

Specially designed for small towns, resort areas, and western range patrols. High pressure fog equipped with two, 200-ft. hose reels; 400-gal. water tank.

MODEL 250-F

Compact, fast and mobile. Fights brush, grass and forest fires on the run with high pressure fog. Compartmentized body; 250-gal. water tank.

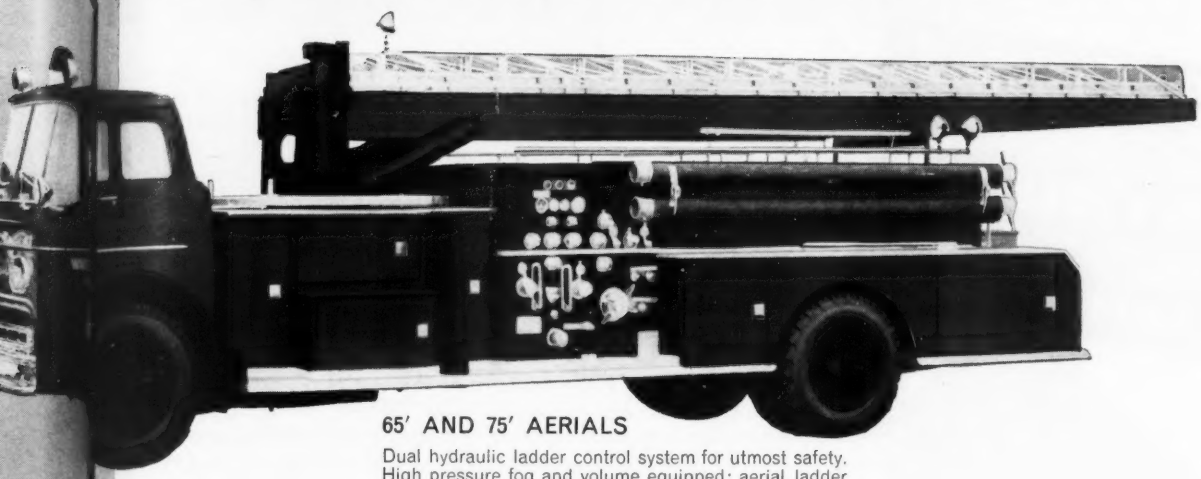
FIRE TANKER

Available with 500, 600, 750 and 1000 gal. tanks. Plenty of storage space in the modern, compartmentized body.

***HPF — High Pressure Fog**
HPV — High Pressure Fog-Volume (Combination)

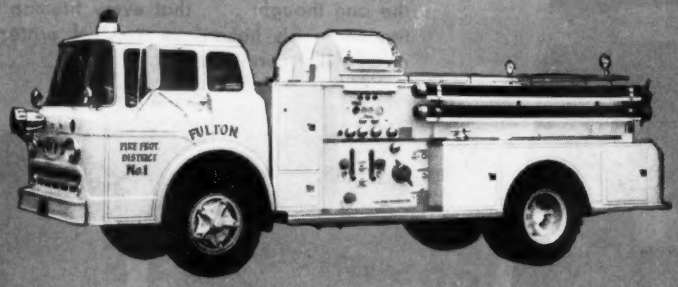
for proof of John BEAN Firefighter effectiveness, write today for

TO MEET YOUR NEEDS BEST!



65′ AND 75′ AERIALS

Dual hydraulic ladder control system for utmost safety. High pressure fog and volume equipped; aerial ladder available in all steel or with steel base and aluminum sections. Hydraulically operated 360° turntable and hydraulic outrigger jacks.



HPV* FIRE FIGHTER

Forward control chassis; 500, 600 and 750 gpm volume capacities plus high pressure fog; compartmentized body; 1600-ft. capacity hose bed; 500-gal. water tank.

MODEL 200-F

Mounted on forward control, Willys "Jeep" chassis with 4-wheel drive. High pressure fog; big hose bed; 200-gal. water tank.

INDUSTRIAL FIRE FIGHTERS

Compact, true high pressure fog fire apparatus for in-plant protection. Designed for tight maneuvering through factory aisles; 200-gal. water tank.

demonstration in your community

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The Original STRIPED SAFETY COAT

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We have always designed and constructed our garments with the one thought . . . that every fireman deserves complete protection in his hazardous work of protecting life and property against the ravages of fire.

COMBINATION BUNKER SUITS

The many weights of both rubber coated and cloth type materials offered in our MIDWESTERN Quick-Hitch suit makes this combination ideal for all sections of the domestic market and export. Also, both coat and bunker pants may be purchased with or without detachable wool linings.

MIDWESTERN SAFETY MANUFACTURING CO.
Mackinaw, Illinois

☐ Have Midwestern representative call with complete information and prices.

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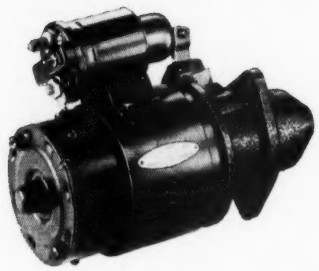
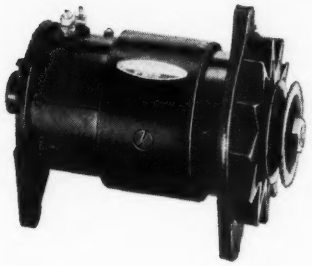
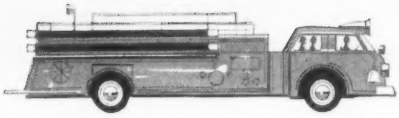
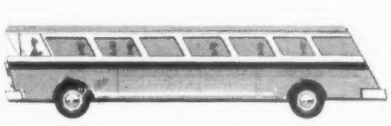
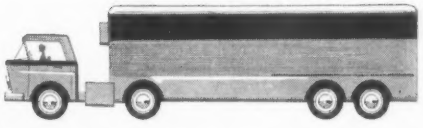


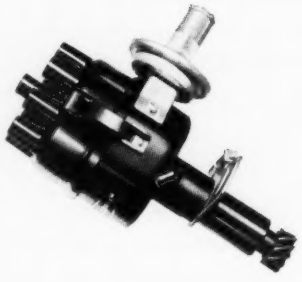


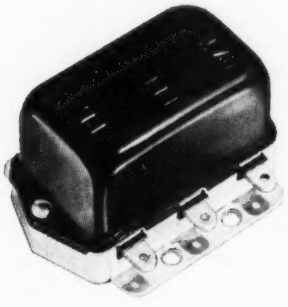


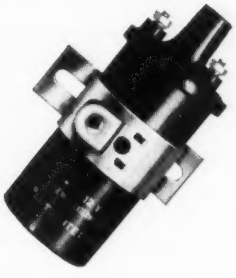
Autolite... Silent Partner for operating dependability











The successful operation of all these vehicles depends on complete dependability of every component part.

That's why so much fire-fighting equipment, so many police cars, buses, taxis and trucks are equipped with Autolite Electrical Products.

Why? For a lot of sound reasons: Autolite makes specialized equipment for specialized jobs. Quality. Autolite's established reputation for top performance. Confidence in the Autolite name. In short, Autolite Service Parts *work*—and keep working—saving you money in long, trouble-free service.

Next time, and every time, be sure of operating dependability—specify Autolite Electrical Service Parts.

THE ELECTRIC AUTOLITE COMPANY, TOLEDO 1, OHIO

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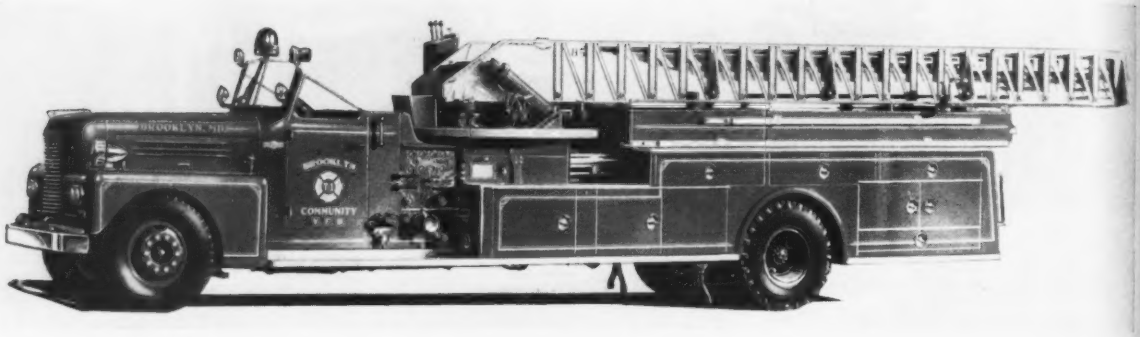
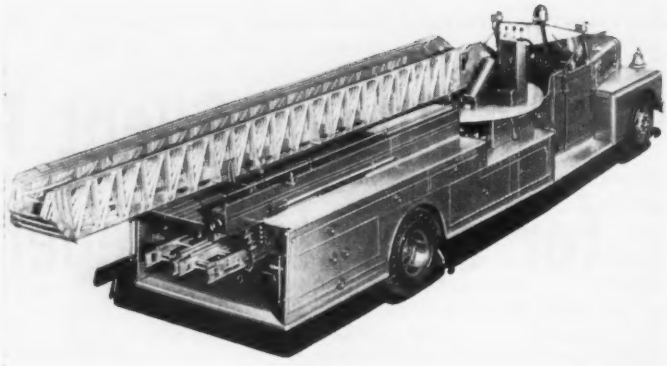
ELECTRICAL SERVICE PARTS

Now! Autolite sponsors the election news with Dave Garroway on NBC-TV TODAY Show—and "News on the Hour," NBC Radio.



FUNCTIONAL
DEPENDABLE
EFFICIENT



The Pirsch Quintuple Aerial Ladder Truck is a highly functional general purpose unit: pioneered by Pirsch and constantly improved during the many years since Pirsch produced the first of this type, the Pirsch Quintuple is a true product of experience.

Pirsch offers in this unit the Pirsch-built full-hydraulic aerial hoist, the Pirsch-built aluminum alloy aerial ladder (65′ to 100′), Pirsch-built aluminum alloy or wood ground ladders, engines of 554 to 1090 cubic inches and pumps of 500 to 1500 GPM single or multi-stage centrifugal type. These and other important features including Pirsch custom-built booster tanks, hose and equipment compartments provide an outstanding Quintuple Aerial Ladder Truck of highest efficiency and dependability.

Pirsch Built America's first all-powered aerial ladder truck and America's first 100′ aerial ladder

Peter Pirsch & Sons Co.
KENOSHA, WISCONSIN

TO OPERATE
1. REMOVE HOSE — PUSH LEVER
2. SQUEEZE NOZZLE HANDLE TO RELEASE CHEMICAL
3. DIRECT AT BASE OF FLAMES WITH SIDE-TO-SIDE MOTION
ANSUL

Ansul people are proud of the D-MODEL dry chemical extinguishers. These cartridge-operated units combine peak fire-killing power with the important advantages of on-the-spot, field recharge and "fresh-fill" performance. They are available in 5, 10, 20 and 30-pound sizes . . . in either red or white. We'd like to tell you more about the D-MODELS and prove their effectiveness to you. Make an appointment with your Ansul fire protection consultant or write for our latest catalog. ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN.

new products, new ideas for better fire protection

ANSUL

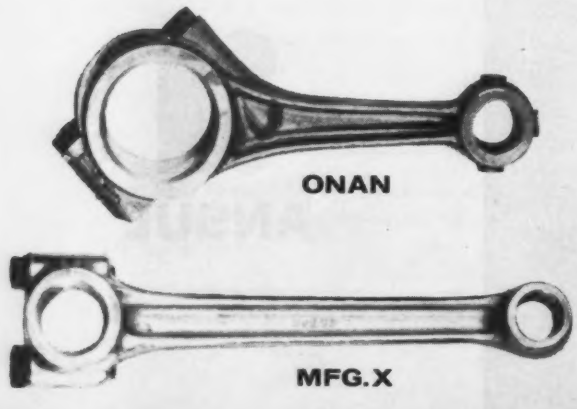
REFRIGERATION PRODUCTS
FIRE FIGHTING EQUIPMENT
INDUSTRIAL CHEMICALS

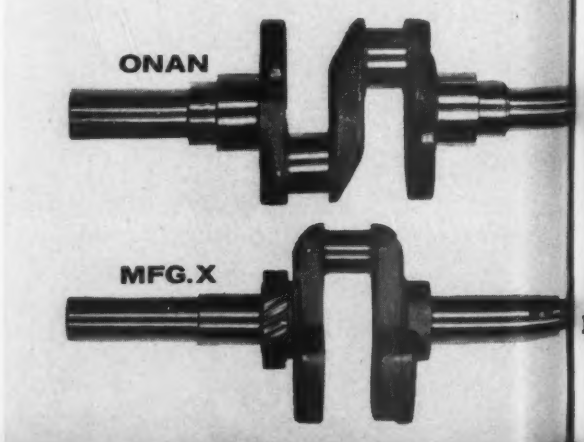
Big, beefy bearings make than ordinary

Look at the brawn in this Onan bearing from a 20 HP engine—more than twice the bearing area of most competitive bearings. Look at the built-down-to-a-price bearing from a 20 HP competitive engine. It's about half the size. Which bearing do you think would last longer?

Connecting rods—The shorter stroke of the Onan engine permits the use of a shorter rod, a more rugged design that stands up longer under heavy duty service—another example how Onan builds *up* to performance, not down to a price.

Crankshafts—Larger diameters of main and rod journals make Onan crankshafts stiffer and stronger, minimizing the possibility of breakage or bending. More "muscle" throughout Onan engines means longer life, extra years of full-rated performance.





Onan last years longer electric plants

Onan bearings are about twice the size of most competitive bearings

Bearings take a beating in any engine. But, with Onan's bigger bearings the strain is spread over a wider area, giving you longer, more economical engine life.

This is just one example of the extra quality you find in Onan Electric Plants. Each one is checked out at full load for hours before it goes to the shipping dock. Engineers have designed 134 separate tests to make sure it operates the way it is supposed to. Not only that, inspectors from independent laboratories pay surprise visits to the Onan factory, pull units off the line and put them through their paces. It's a double check—on Onan tests and testing methods.

There's an Onan representative near you, ready to tell you about the complete line of Onan Plants, from 500 watts to 230,000 watts. Look for his name in the telephone classified section in all major cities, or write direct.

ONLY ONAN GIVES YOU THIS GUARANTEE

PERFORMANCE CERTIFIED
We guarantee that when properly installed and operated this Onan electric plant will deliver the full power and the voltage and frequency regulation promised by its nameplate and published specifications. This plant has undergone several hours of running-in and testing under realistic load conditions, in accordance with procedures certified by an independent testing laboratory.
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Onan®

World's Leading Builder of Electric Power Plants

D. W. ONAN & SONS INC., 2528 UNIVERSITY AVE. S.E., MINNEAPOLIS 14, MINN.

Send a man instead of a boy!

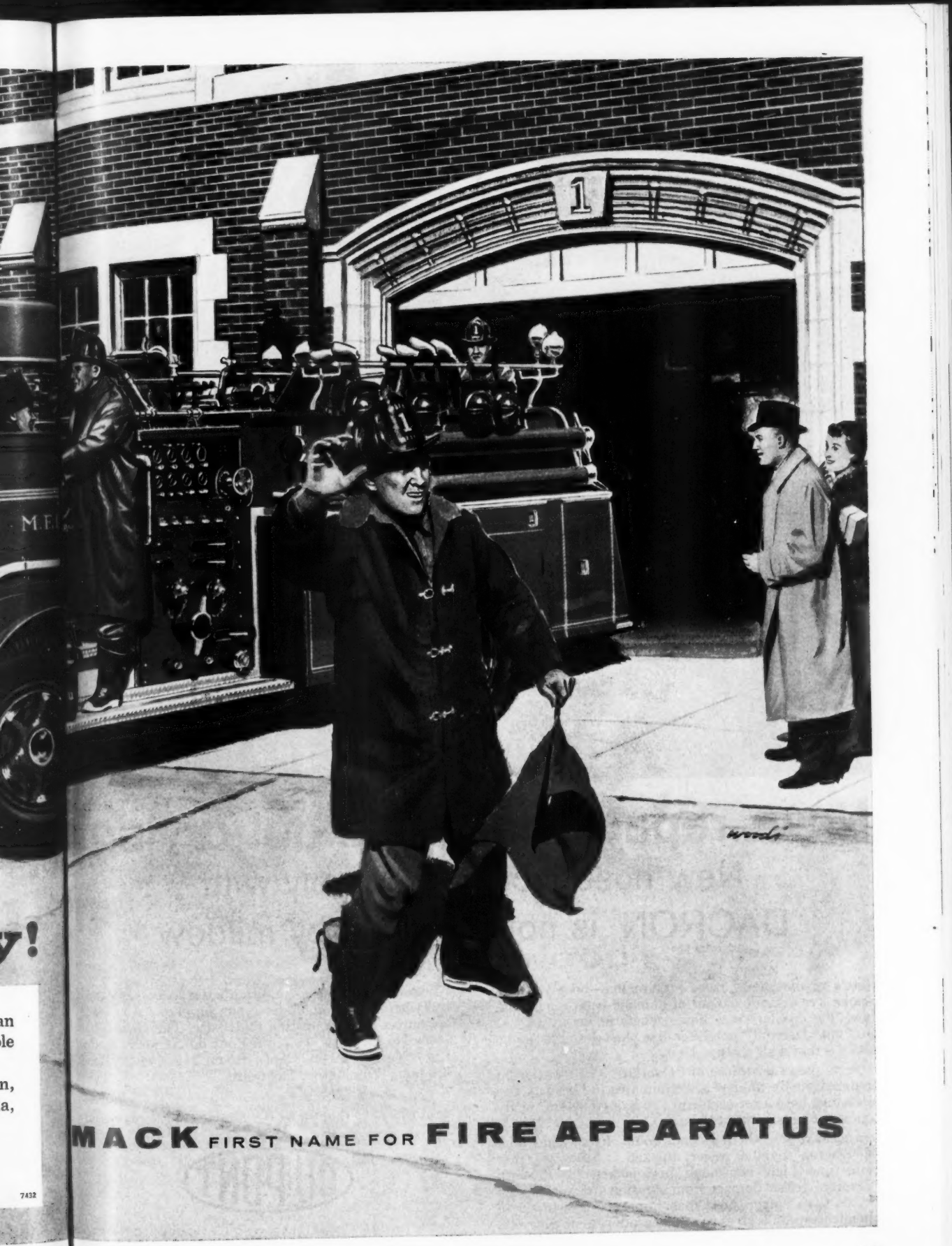
All-out drill or "three-bagger"—it's all the same to Mack fire apparatus because Macks are always ready for any assignment.

When you consider new apparatus, make sure it's capable of handling the most demanding assignment you can anticipate. Make sure it's dependable Mack fire apparatus!

Mack Fire Apparatus, Allentown, Pennsylvania. Mack Trucks of Canada, Ltd., Toronto, Ontario.

COMPLETE LINE OF PUMPERS — 500 to 1250 GPM... SQUAD AND HOSE WAGONS... AERIALS 65' to 144'... COMBINATION LADDER TRUCKS

7432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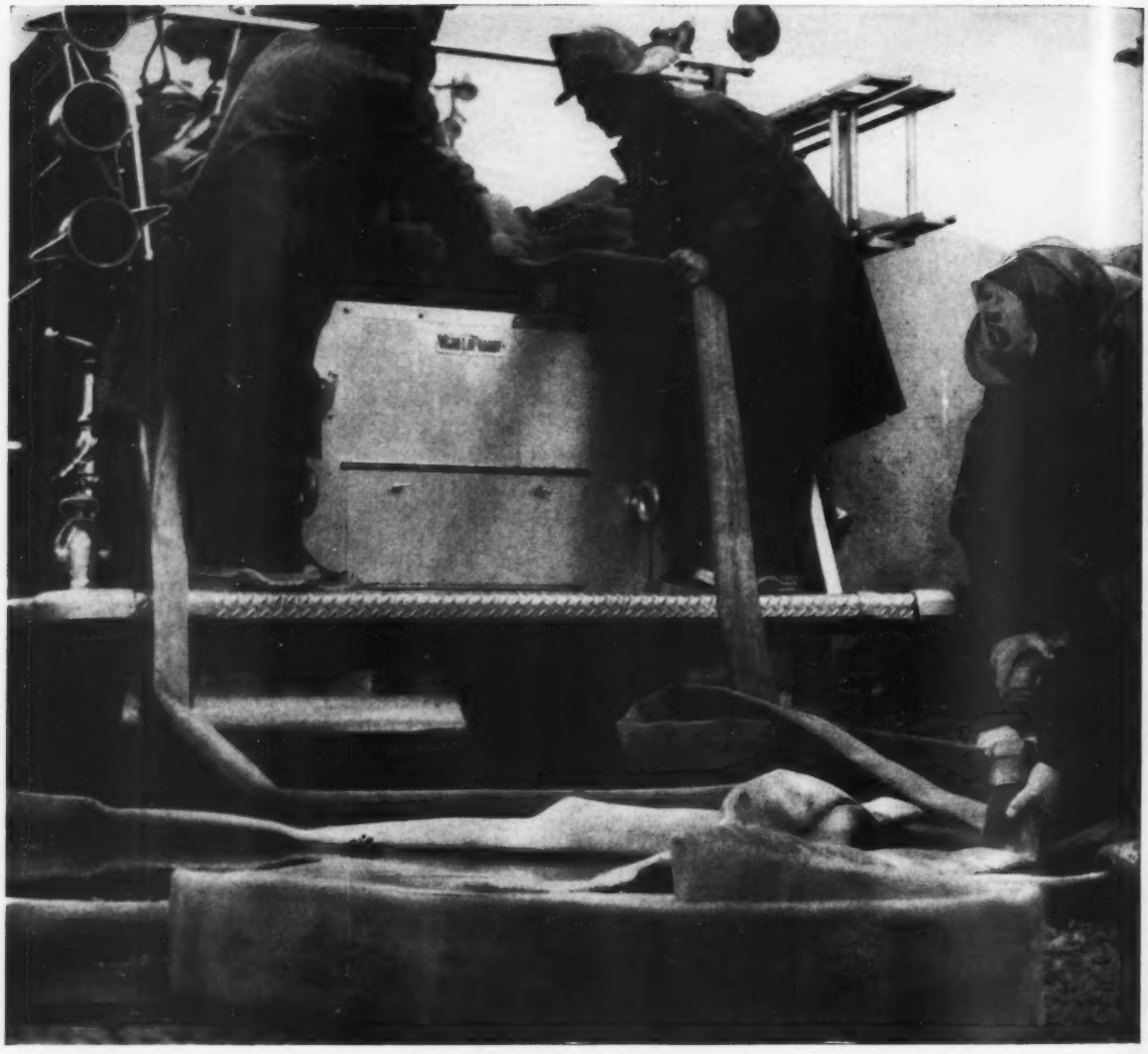
MACK FIRST NAME FOR FIRE APPARATUS



Now...repack hose without drying!

New hose jacketed entirely with DACRON® is not damaged by mildew

polyester fiber

Here's revolutionary news for firemen—hose you can repack *wet* without danger of damage from rot or mildew! The reason—new hose jackets made entirely of Du Pont "Dacron"* polyester fiber. Just drain, recouple, reload—that's all there is to it.

Tests prove new hose of "Dacron" is not weakened or damaged by mildew . . . eliminates the need to dry or change hose after each run . . . lets you stand ready to answer calls without delay.

And at a fire, where seconds count, lightweight hose of "Dacron" handles easier, quicker . . . saves you precious time. Light but tough, hose jacketed 100% with "Dacron" resists damage from abrasion and wears much better than cotton hose, has improved resistance to chemicals and oils, gives years of more dependable service.

When you buy hose, be sure it's the best—hose jacketed with all "Dacron". See your supplier . . . or write for sources and interesting folder on "The Hose That Needs No Drying." E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Dept., Room 31E Centre Road Building, Wilmington, Delaware.

*"Dacron" is Du Pont's registered trademark for its polyester fiber

Enjoy THE DU PONT SHOW WITH JUNE ALLYSON, Monday nights, CBS-TV

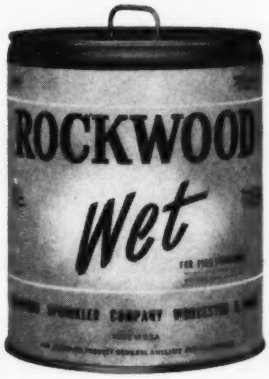
DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

One part of Rockwood WET mixed with 99 parts water increases penetration and extinguishing power. It's ideal — especially in rural areas where water is limited. It takes less water . . . less time . . . you save money — and it makes the work of fire fighters more efficient. Tested and listed by Underwriters' Lab. ROCKWOOD SPRINKLER COMPANY, A Division of The Gamewell Company, *Engineers Water . . . to Cut Fire Loss.*

ROCKWOOD WET



ROCKWOOD SPRINKLER CO.
Portable Fire Protection Division
450 Harlow Street, Worcester 5, Mass.

Please send me your booklet on Rockwood WET.

Name.....
Title.....
Company.....
Street.....
City..... *Zone*..... *State*.....

A quarter of an inch from danger

. . . but new flexible steel insole keeps feet safe in B.F.Goodrich and Hood Firefighter® boot

THAT sharp spike can't stab through the sole of *these* boots. Your feet are protected by overlapping steel plates buried in the flexible safety insole. New B.F.Goodrich and Hood *Firefighter*® boots are also reinforced with an extra heavy toe cap, and have a non-slip sole that prevents nasty spills when it's slippery under foot. Both toe and sole are a brilliant white color for greater visibility.

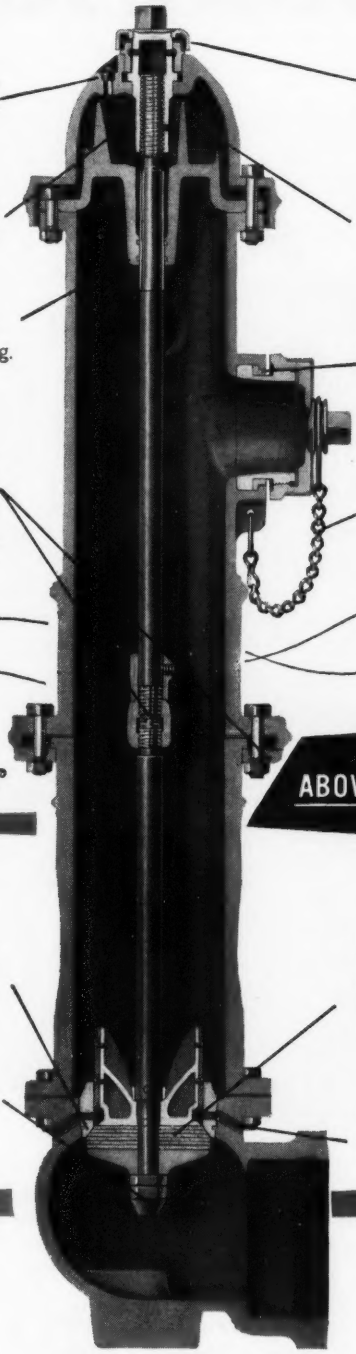
Attention to small details in the construction of these *Firefighter*® boots also makes a big difference in extra wear, comfort. To make boots last longer, there's an extra layer of rubber where boots ordinarily chafe. The inside knee band which receives the most flexing is made of neoprene, a special rubber that resists cracking. Straps and buckles are fully coated with rubber and securely anchored into body of the boot. Interior of boot is lined with soft felt to keep legs and feet warm. Outsole shank is especially designed to make feet more comfortable on ladders. And the leg is made extra wide so boot is easier to get on and off.

B.F.Goodrich and Hood *Firefighter*® boots with the new flexible safety steel insole come in sizes 5-13, in short and Storm King height. For more information, call your BFG or Hood distributor; or contact *The B.F.Goodrich Company or Hood Company, Dept. F, Watertown 72, Mass.*

FIREMEN'S BOOTS BY B.F.Goodrich and Hood

MUELLER®

AWWA IMPROVED FIRE HYDRANTS



OIL FILLER PLUG
Check oil level quickly with dipstick and add oil if needed without removing bonnet.

OIL RESERVOIR
Positive, automatic lubrication of all stem threads and bearing surfaces each time hydrant is operated.

"O" RING SEALS
Permanent, water-tight seal without packing adjustments or stem binding.

SAFETY FLANGE AND SAFETY STEM COUPLING
Prevent damage and permit convenient facing of nozzles, addition of extension sections or changing of upper barrel for different nozzle arrangements quickly, easily, inexpensively . . . all without digging or water shut-off.

BRONZE WEATHER CAP
Prevents freezing of operating nut and discourages tampering.

DRY TOP DESIGN
Operating threads and bearing surfaces sealed from water.

BREECH-LOCKED NOZZLES
Interlocking lugs and calking prevent blow-out. Easily removed if necessary.

NON-KINKING CHAINS
Each chain individually attached directly under nozzle.

. . . designed for

ABOVE-GROUND MAINTENANCE!

BRONZE SEAT RING
Straight threads and copper asbestos gasket permit easy removal of seat ring.

BRONZE CAP NUT
Locks and seals stem threads to prevent corrosion.

COMPRESSION-TYPE MAIN VALVE
Closes with water pressure...stays closed without strain . . permits repairs or changes without water shut-off.

DOUBLE DRAIN OPENINGS
Automatically force-flushed each time hydrant is operated.

MUELLER CO.
DECATUR, ILL.

Factories at: Decatur, Chattanooga, Los Angeles;
In Canada: Mueller, Limited, Sarnia, Ontario

INTERNATIONAL LEAPS INTO ACTION WITH DUAL IGNITION!

Dependability is built into INTERNATIONAL Fire Truck Chassis—right from the word go!

V-8 powered models now give you and your community the doubly sure action of dual-ignition engines. You can fire both sets of plugs simultaneously, or either set individually, by turning a switch. And these sure-fire engines deliver dependable pumping power with up to 257 hp., capacities up to 1,000 gpm.

INTERNATIONAL tilt-cab design provides easy engine access—and gives a driver close-up vision for complete command of the road. He can "see farther" into a turn or across an intersection. Optional Select-O-Matic transmission eliminates clutch pedal, reduces shifting time. It's so simple to operate, *anyone* can take the wheel!

There's a wide range of INTERNATIONAL chassis, from heavy-duty models to light-duty rescue and disaster units. For the right model for *your* needs, and expert help in making your selection, see your nearby INTERNATIONAL Truck Dealer or Branch.

Split-second starts, plus safe vision and easy handling every minute of the way

INTERNATIONAL V-8 chassis offer you a choice of *three* heavy-duty V-8 engines—401, 461 and 549 cu. in. displacement. Get dual ignition in the two large sizes, 461 and 549 cu. in. . . . like the power available in this INTERNATIONAL model VCO-206 tilt-cab chassis shown here. A wide selection of axles, transmissions and other major components tailors these popular fire truck chassis for a variety of ladder and hose equipment and pumping apparatus.

INTERNATIONAL® TRUCKS

WORLD'S MOST COMPLETE LINE

International Harvester Company, Chicago • Motor Trucks • Crawler Tractors • Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors

New all-"Dacron" Porter Bonded Fire Hose takes this kind of hose-killing abuse in stride. On test for two years by the Rochester, New York Fire Department, Porter Hose still does not show signs of wear.

New All-"Dacron" *Porter*® hose loves work like this ...shows no wear after two years of use!

John Hurley, Rochester's Deputy Chief, says, "Porter hose cuts our hose inventory in half... saves up to an hour 'out-of-service' time."

This new all-"Dacron" Porter Bonded Double-jacket Hose is making friends with fire fighters and fire departments all over the country. No other fire hose can match Porter hose on all these counts:

Eliminates drying—Its bonded double-jacket of "Dacron" defies moisture . . . can be repacked wet without fear of mildew or rot . . . saves depot trips for dry hose . . . cuts hose inventory in half.

Resists tough—wear All-"Dacron" Porter hose lasts many times longer than ordinary double jacket hose under the most severe usage. It even takes the rugged abuse of abrasive ice and corrosive chemicals.

Lighter, more compact—New all-"Dacron" Porter Hose takes 30% less space, so many more sections can be packed into a truck.

It's no wonder so many departments are switching to this new all-"Dacron" Porter Bonded Double-jacket Hose . . . no wonder, when only half as much hose does the job better and stays on the job longer. Get all the facts on this new and improved fire hose.

See your Thermoid Division distributor or write *Thermoid Division, H. K. Porter Company, Inc., 200 Whitehead Road, Trenton 6, New Jersey.*

THERMOID DIVISION PORTER **H. K. PORTER COMPANY, INC.**

PORTER SERVES INDUSTRY: with Rubber and Friction Products—THERMOID DIVISION; Electrical Equipment—DELTA-STAR ELECTRIC DIVISION, NATIONAL ELECTRIC DIVISION, PEERLESS ELECTRIC DIVISION; Specialty Alloys—RIVERSIDE-ALLOY METAL DIVISION; Refractories—REFRACTORIES DIVISION; Electric Furnace Steel—CONNORS STEEL DIVISION, VULCAN-KIDD STEEL DIVISION; Fabricated Products—COLDFORM DIVISION, DISSTON DIVISION, FORGE AND FITTINGS DIVISION, LESCHEN WIRE ROPE DIVISION, H. K. PORTER COMPANY de MEXICO, S. A.; and in Canada, Refractories, "Disston" Tools, "Federal" Wires and Cables, "Nepcoduct" Systems—H. K. PORTER COMPANY (CANADA) LTD.

They're BOTH WINNERS!

No. 80 and No. 90

INDIAN

FIRE PUMPS

"MAKE A SHARP TEAM"

Glide to easy victory over small fires with **INDIAN FIRE PUMPS** . . . the extinguishers that can handle 30% of all your calls without laying hose.

Choose whichever model best suits your requirements but be sure to specify **INDIAN FIRE PUMPS** . . . they have no equal.

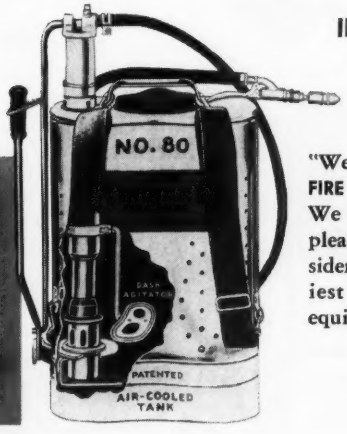
No. 90 INDIAN Fire Pump

(sliding pump type)

BOTH MODELS APPROVED BY UNDERWRITERS LABORATORIES

No. 80 INDIAN Fire Pump

(lever type pump and handle)



INDIAN FIRE PUMPS are advertised to millions of readers . .

"We have used **SMITH INDIAN FIRE PUMPS** for many years. We need two more which please ship at once. We consider **INDIANS** to be the handiest piece of fire fighting equipment on our truck."

F. H. Sanders, Mayor
Aliceville, Alabama

Send for NEW Catalog

D. B. SMITH & CO. "FOR OVER 70 YEARS THE LEADERS" **406 Main St., Utica 2, N.Y.**

Pacific Coast Branches:

Hercules Equipment & Rubber Co., Inc. San Francisco 7, Calif. San Jose, Calif.

Halprin Supply Co. Los Angeles 15, Calif.

Fred E. Barnett Co. Portland, Ore.

Fred E. Barnett Co. Klamath, Ore.

Mill & Mine Supply Inc. Seattle 4, Wash.

L. M. Curtis & Sons Salt Lake City, Utah

Canadian Agents:
Fleck Bros. Ltd. Vancouver, B. C., Canada
C. E. Hickey & Sons, Ltd. Hamilton, Canada

Here are GMC's

NEW AND MOST POWERFUL FIRE ENGINES!

New GMC Twin-Six

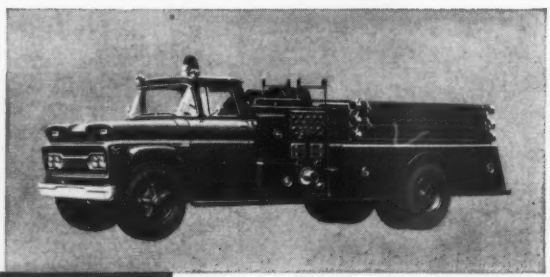
Most powerful standard production gas engines built! Full 299 hp! Plenty of power for pumping up to 1500 gallons per minute . . . plenty of reserve power for fast take-offs and reduced shifting!

V-6

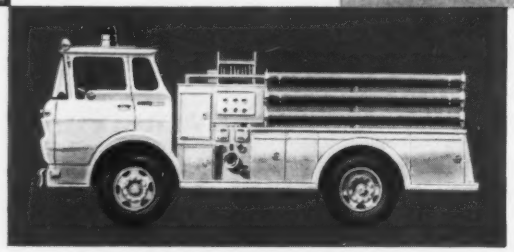
New, exclusive, extended-life V-6 engines—only from GMC! Fast starting, new GMC V-6s give you top usable power at low engine speed for responsive acceleration and dependable, high performance.

GMC
GENERAL MOTORS CORPORATION
TRUCKS

New GMC Conventionals have independent front suspension and wider track for easier and safer handling, smoother ride. Cabs are up to 10" lower outside, yet roomier inside.



GMC V-6 and Twin-Six engines meet all the power requirements for 500 to 1500 gallons per minute . . . Conventional, Conventional Ninety-Inchers and Steel Tilt-Cabs.



New short-turning GMC Steel Tilt-Cabs have the biggest safety vision you can get. Low, wide doors provide for quick entry and exit. Full tilt for 100% engine accessibility.

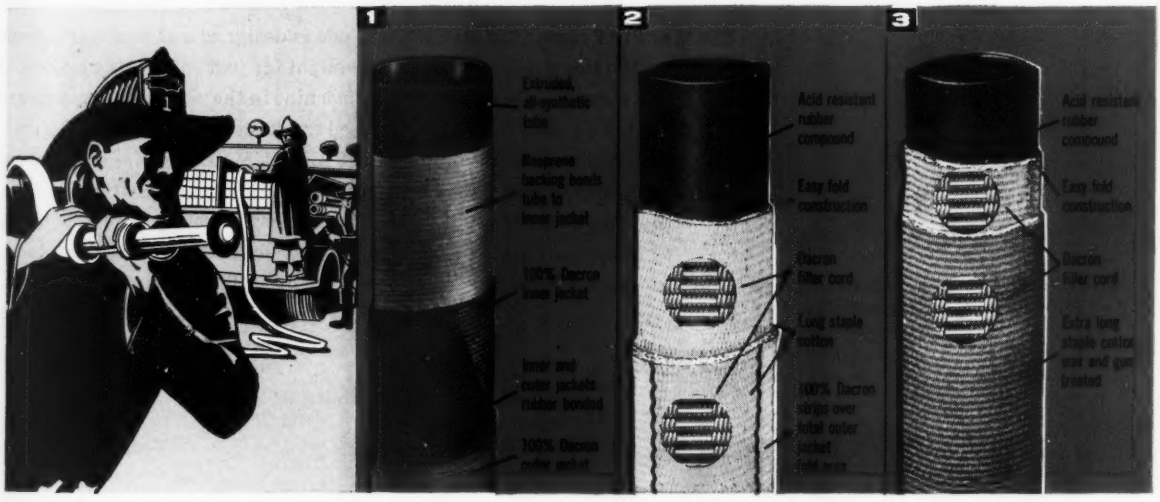
GMC Truck & Coach—a General Motors Division—Pontiac, Michigan

Fyr-Fyter's *quality hose brands all employ*

DACRON* for strength, light weight and long life!

Most municipal and industrial fire departments prefer hose made of Dacron. Question is—what kind of Dacron construction is best for the job, considering hose cost? Fyr-Fyter offers 3 outstanding brands of quality hose. Each brand employs Dacron a different way for strength, light weight and long life. Each brand has different wearing characteristics, and of course is priced accordingly. When you want highest hose quality, always specify Fyr-Fyter! And if you need help in making a decision on which Fyr-Fyter hose brand to buy, write for additional literature and prices to The Fyr-Fyter Company, Dayton 1, Ohio.

**DuPont trademark for its polyester fiber.*



1 AMBASSADOR . . . "Bonded" All-Dacron double jacket. 100% Dacron jackets are permanently "rubber-bonded." Can be dragged miles without fraying. Minimum water absorbency means no drying required, no mildewing, no spare hose needed. Lasts about 5 times longer than standard cotton hose. Tests 600 lbs., in 1½" or 2½" dia., 50 ft. lengths.

2 SUPER FYR-STRYPE . . . 100% Dacron strips over total fold areas, plus Dacron filler cord. Pure Dacron strips over total fold areas reduce hose wear 90%! Jackets are reinforced with Dacron filler cord. Is 15% lighter and 50% stronger than conventional hose. Tests 600 lbs., in 1½" or 2½" dia., 50 ft. lengths.

3 SUPER FYR-FLEX XL . . . cotton reinforced with Dacron filler cord. Extra long staple cotton of extremely close pick, wax and gum treated, supports Dacron filler cord. At least 10% stronger than standard cotton hose. Tests 600 lbs., in 1½" dia., 50 or 100 ft. lengths. Fyr-Fyter also offers Booster Hose and Suction Hose.

Fyr-Fyter

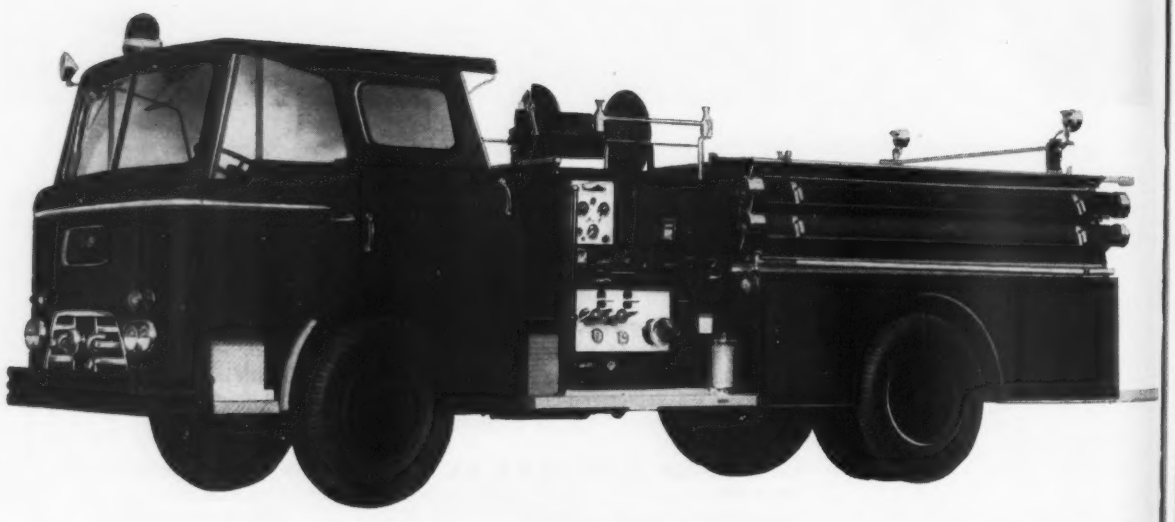
Branches: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Toronto (Ontario). Representatives and Distributors in all principal cities.

the new **WARD LaFRANCE**

PREMIUM CUSTOM

for the price and delivery time of an improvised truck

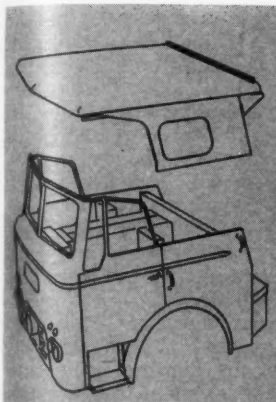
The Ward LaFrance PREMIUM CUSTOM is designed and engineered from the tire treads up to the beacon light for just one specific purpose—to give you the best fire-fighting machine in the world. Our response to a growing demand for custom-tailored trucks at a commercial-truck price comes with the creation of the PREMIUM CUSTOM. Long years of engineering experience and modern production techniques combined with an acute awareness of the varied needs of different communities have made it possible. A wide range of completely-engineered, interchangeable options can now be quickly adapted to meet every fire-fighting requirement. And delivery time is considerably shortened.



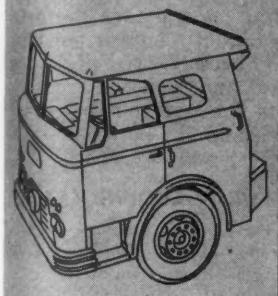
16 PREMIUM CUSTOM MODELS TO CHOOSE FROM

Write, wire or telephone the factory or your nearest Ward LaFrance Dealer.

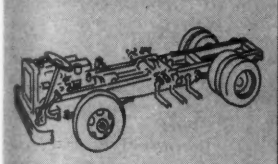
WARD LaFRANCE



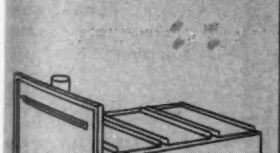
NEW! ADD-A-TOP
All-steel, removable roof which converts an open cab into a weather-proof, closed cab in minutes.



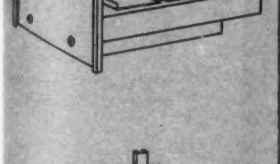
NEW! SEVEN-MAN CAB
Seating space to spare with cycloramic view for driver and officer; 5 crewmen ride comfortably in rear safety position.



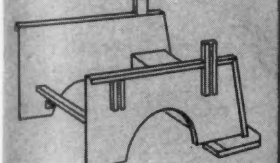
NEW! CAB-OVER-ENGINE
Places power plant ahead of front axle for greater safety, visibility and maneuverability.



NEW! CHASSIS
Wide track front axle; front shock absorbers; rugged, carbon-steel frame with riveted members; heavy-duty cam and roller steering gear; heavy-duty, I-rib, wrap-around bumper.



NEW! TANK
Removable tank with three easily-removed covers for spot inspections; zincolate interior coating and 10-gauge steel throughout; 350, 500, 750, 1000 gallon tank sizes available.

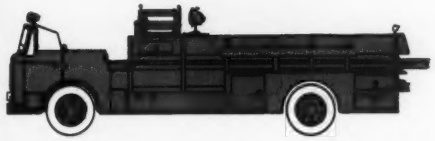


NEW! BODY
Side sheets made of 12-gauge, cold-rolled, stretcher-leveled steel. Hose body capacity of 1800 ft. of 2½" hose with 350 gallon tank. Readily-removable hardwood, slatted floor-racks for hose ventilation. Three large compartments at rear of body—two enclosed, one open; large enough to house portable pump and generator.

NEW! COMPARTMENTS
Four, large bolt-on compartments —two right and two left; allows total use of more compartment space than can be found on any comparable model.

Additional exclusive features of the new Ward LaFrance utility-packed unit:

- Shortest wheel-turning radius—24 ft.
- Shortest front overhang—56"
- Shortest wheelbase—150"
- Shortest overall length—288"
- Shortest overall turning radius—less than 27 ft.



PREMIUM CUSTOM ALSO AVAILABLE IN RESCUE AND SALVAGE VEHICLES AND QUADRUPLES.

TRUCK CORPORATION

FACTORY AND SALES OFFICE: GRAND CENTRAL AVENUE, ELMIRA, NEW YORK • EXECUTIVE OFFICE: 250 PARK AVENUE, NEW YORK 17, NEW YORK

The original... and still the finest!

The HALE FZZ FZ Portable FIRE PUMPING UNITS

Here's the inside story on the famous Hale FZZ. Originated by Hale and often imitated but never duplicated, Fire Companies everywhere find the FZZ and its companion, the FZ, tops in the emergency work for which each is specifically designed.

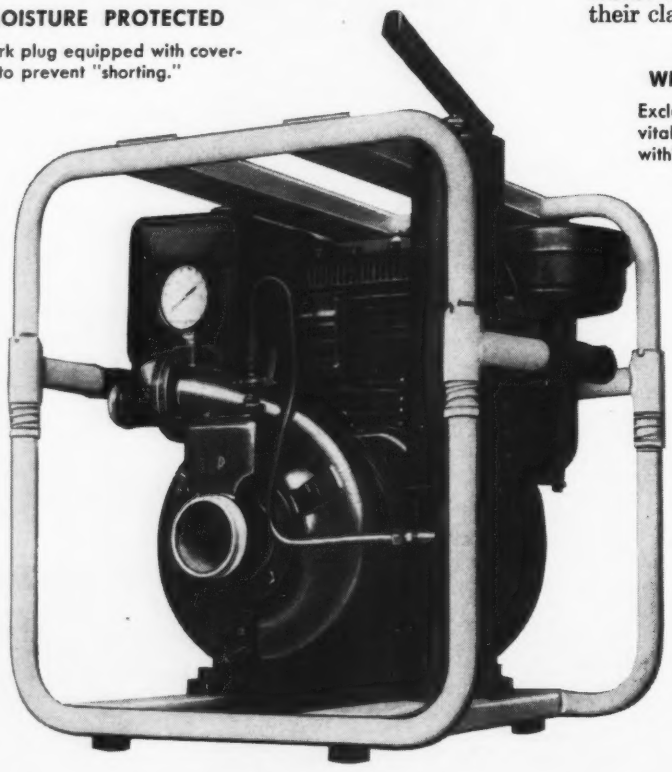
See For Yourself . . . Check Feature by Feature and you'll understand why the Hale FZZ and FZ are the most useful pieces of emergency equipment you can own . . . why so many other fire-fighting companies depend on them in every fire-fighting emergency. Performance of both pumps substantially exceeds N.F.P.A. capacity and pressure requirements for portable pumps in their class.

MOISTURE PROTECTED

Spark plug equipped with covering to prevent "shorting."

WRAP-AROUND FRAME

Exclusive HALE design. Protects vital engine parts and pump within its steel enclosure.



MATCHED POWER

Pump designed specifically for engine to give long engine life and low operating costs.

FOLD-AWAY HANDLES

Adjust to four positions. Rubber grips insure safe, positive carrying.

BRONZE IMPELLER and CLEARANCE RING

Easily replaceable; resistant to corrosion; insure top performance at low maintenance cost.

HAND THROTTLE

Permits operator to vary the volume and pressure to fit his requirements.

EXHAUST EJECTOR

Gives fast priming on high lifts.

RUBBER PADS

Hold pump in position; prevent "walking."

STUFFING BOX

Noted for RELIABILITY and freedom from sudden failures at critical times, such as at scene of fires.

Write today for detailed information on FZZ and FZ to:

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PENNSYLVANIA

2 Great Units

The FZZ Packs a Pressure Punch! Best for pumping through a 2½" line over 350 ft. long.

The FZ Packs a Volume Punch! Best for pumping through a 2½" line not over 350 ft. long

Just a quarter turn does the job, with a

BALL *type* VALVE & SIAMESE

"Quick as a wink"—full stream or complete shut-off—at any pressure. Straight-through waterway. Both Valve and Siamese come with either pin lug or "Sensible" lug swivel. Built for rugged service—body painted red, polished bronze or chromium trim—size: Siamese—2½" x 1½" x 1½", Valve—1½" and 2½". Specify "Ball Type" by Powhatan.

you can bank on POWHATAN for the best in brass goods

DURA-FOG NOZZLE . . . .

Here's the sweetest little fog nozzle you'll ever use. Exceptionally fine dispersion with less water. Every Nozzle factory tested and 100% perfect performance guaranteed. Try this one at our expense. Just write us on your company letterhead —we'll send one on trial.

SUPER-FORGE COUPLING.

The toughest, tightest, lightest coupling on the market. Drop forged for tougher service. Non-corrosive—can't rust. Comes with three "Sensible" lugs on both male and female, with Higbee Indicators. Always specify "Super-Forge".

POWHATAN

BRASS & IRON WORKS

RANSON, WEST VIRGINIA

In The Same Location Since 1892

WEIGH THE FACTS— AND YOU'LL CHOOSE BOSTON HOSE!

COMPETITIVE FIRE HOSE
Less material — less wear

BOSTON FIRE HOSE
More material — far longer wear!

MORE OF THE FINEST YARNS MAKES BOSTON FIRE HOSE WEAR FAR LONGER —yet it handles and stores easily!

Common sense tells you: the craze for lightweight hose can go to extremes. You can sacrifice wear for weight. Take out material, and you lose durability.

So, we state proudly—BOSTON Fire Hose IS heavier. Because the extra weight is in the warp yarns. You get more wear for your money.

See your BOSTON agent or write to BOSTON for free descriptive literature

BOSTON FIRE HOSE

BOSTON WOVEN HOSE & RUBBER COMPANY
DIV. OF AMERICAN BILTRITE RUBBER CO. INC.
BOSTON 3, MASS.
ORIGINATORS OF CIRCULAR WOVEN FIRE HOSE

DUO Safety

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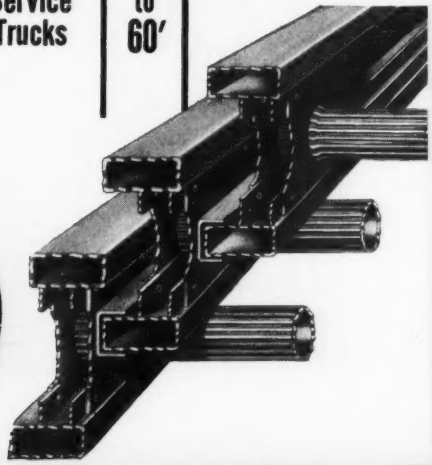

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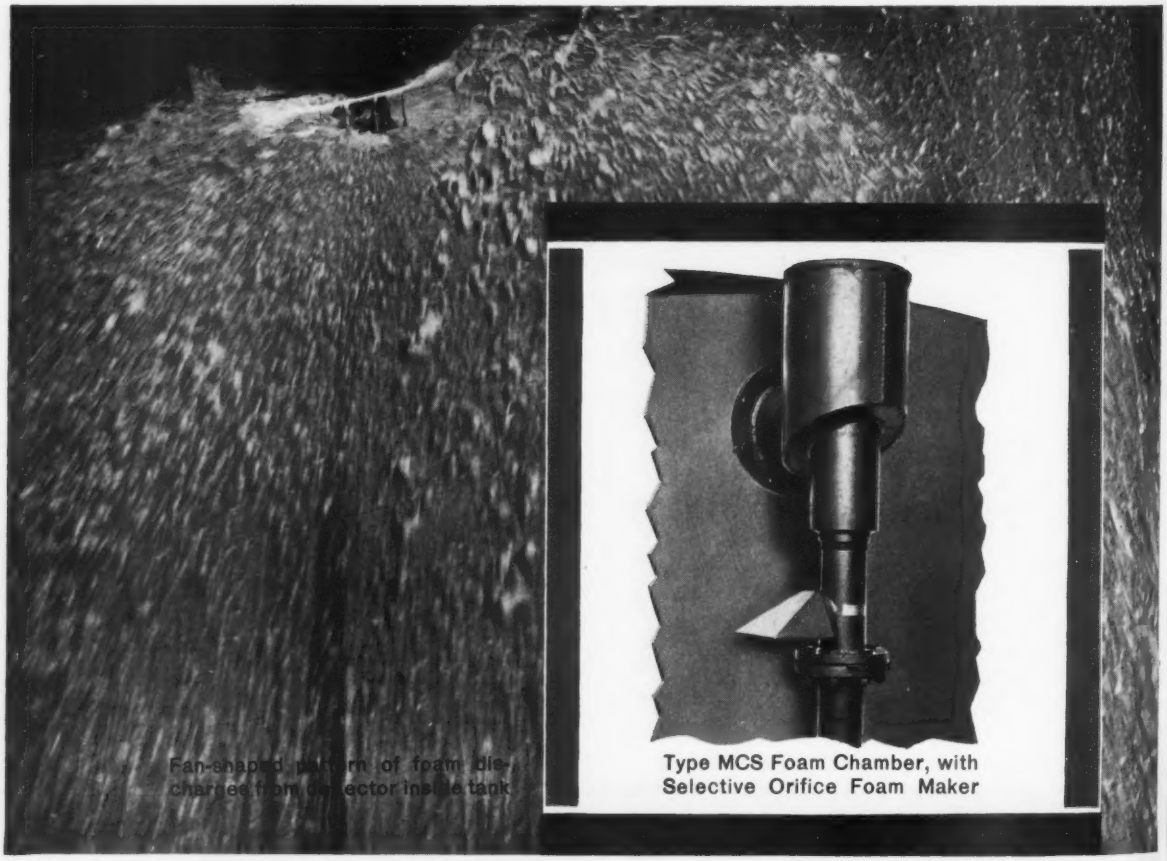

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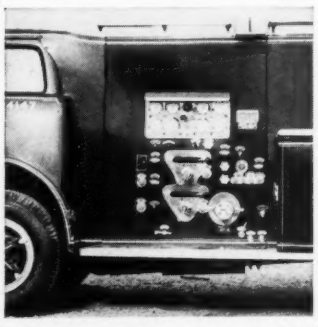

Pump operator's panel properly arranged for most efficient use.

Compartmentation uses all available space. Note location of ladders.

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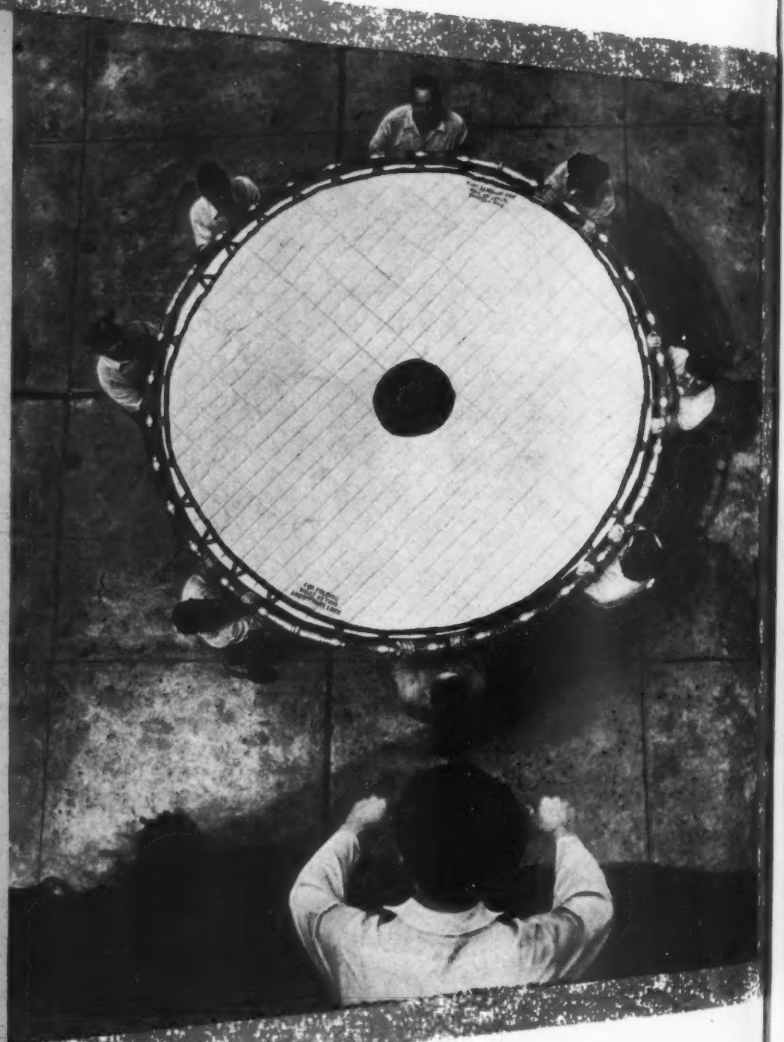

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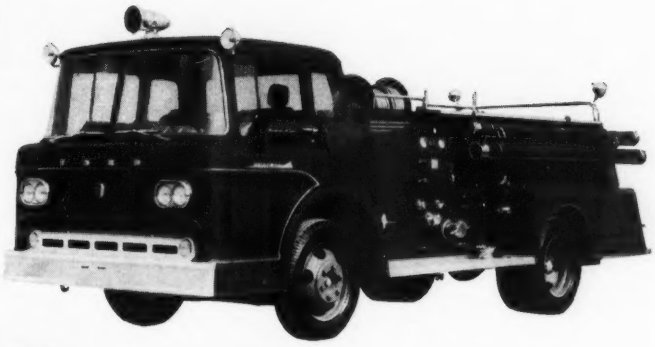

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FIRE ENGINEERING

VOL. 113, NO. 4 APRIL, 1960

THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

Radio Frequency Allocations—A Problem

Testimony before the Federal Communications Commission concerning the allocation of new fire service radio frequencies has brought into the open some interesting points of view. The pressure brought to bear on the F.C.C. by all parties concerned with radio frequencies is extremely heavy and is based upon the assumption that each interested group must fight for itself with the chips of the battle lying where they fall. Fortunately representatives of the International Association of Fire Chiefs and the International Municipal Signalmen's Association keep a close watch on the proceedings and are well prepared to advocate and defend the fire service interests and positions at all times.

In one recent instance the chairman of the American Municipal Association's Communication and Radio Committee expressed doubt that the proposed fire service assignment of 16 new frequencies in the 152-162 mc band and two additional frequencies in the 42-50 mc band was necessary. One of the channels in each frequency block would be earmarked for inter-system mutual aid command purposes. In this regard, the committee questioned the frequency of communications use of the existing bands in its presentation, arguing against the proposed allocation.

The A.M.A. committee chairman reported that monitoring of an active fire frequency in the Detroit metropolitan area did not reveal any interference beyond that of a nuisance nature to the licensees of the particular frequency. He noted that 21 base stations and over 130 mobile units presently use the one channel. Because of judicious use of the facility, proper coding and strict radio discipline enforced by the fire chiefs concerned, this simplex system on a single frequency was stated by him to be suitable for the area. He contended that mutual aid is available and a separate frequency for this purpose would be redundant. The committee chairman then asked that the frequencies involved be allocated instead to the local government radio service or to other categories in the public safety radio classification which might have need of them.

The use of the Detroit area example by the American Municipal Association as an indication that additional fire radio frequencies are unnecessary seems to strengthen rather than weaken the stated fire service requirements. At the same time it points up the wisdom of channel-splitting requirements by the F.C.C. Fire officials are well aware of the limitations imposed by the usable radio spectrum and the present state of the art in this method of communications. Because of these reasons their requests for consideration to the F.C.C. have been very reasonable in the past and geared to the acquisition of equipment by the various fire departments in the field. It is not difficult to forecast that future requirements will strain even the present proposed additions to the current channels.

Up to 1959 more than 4,000 fire service radio licenses had been issued by the F.C.C. Many of these are in the nature of a single coordinated system which covers many communities and do not show the total number of individual fire departments operating in a net. A conservative estimate indicates that over 5,000 fire departments now employ radio in their everyday operations and many of these intend to expand in the near future. When this is contrasted against an estimate of over 20,000 fire departments presently organized, each of whom may be expected to use radio in their operations within the foreseeable future, it is not difficult to recognize that even the mere handful of present and prospective frequencies will at best meet only the barest minimum requirements for the service.

The A.M.A. argument concerning enforcement of good radio discipline on the part of fire chiefs is certainly a unique twist of logic. If carried to the ultimate extreme, it would place the Federal Communications Commission in the ridiculous position of penalizing the fire service because it observes the commission's regulations regarding the use of the airwaves.

It would then follow that the proposed frequencies be given to other services which could be expected to violate these same rules or be less meticulous in the observation of them. Any action of this nature would, in effect, make the fire service a scapegoat of their own regard for efficient operations in their efforts to safeguard the lives and property of this nation's citizens. It is inconceivable that the Federal Communications Commission can give serious consideration to such objections as it attempts to reach a final decision.

Hon O'Brien

VENTILATION AT FIRES

When should it be used . . . How to achieve it . . . What it can do

By WILLIAM E. CLARK*
Supervisor, Wisconsin Fire Service Training

ABOUT THE AUTHOR

The author retired as a battalion chief after serving 20 years in the New York Fire Department. He went to Wisconsin in 1958 to take charge of that state's new fire training program for its 794 fire departments. He was formerly instructor in fire administration at Queens College, New York, and conducted several fire schools in the State of New Jersey.

IF A SUITE of living room furniture, consisting of a davenport and two overstuffed chairs, were in an open field and ignited, the resulting fire would not be difficult to extinguish with a small amount of water. In fact, firemen could walk up close and extinguish the fire with a pump tank.

If the same furniture were burning in its ordinary location, a living room, the job of extinguishing the fire might not be so easy. In many cases, firemen might be incapacitated by the smoke and large amounts of water would be necessary. In other instances, the failure of the firemen to get in close and quickly extinguish the fire could result in extreme damage to the building.

What causes the difference?—The amount of ventilation! The furniture burning outside is no problem because heat and smoke rapidly dissipate into the atmosphere. The same furniture burning in a building will cause large amounts of heat and smoke to build up within a structure because heat and smoke can't escape to the outside atmosphere fast enough. Consequently, firemen have to advance to the fire under very unpleasant conditions. Even if they are protected by masks, the heat may be punishing and lack of visibility a problem.

Difficulties posed by an interior fire can be greatly reduced by making the conditions as similar as possible to those of the outdoor fire; that is, to thoroughly ventilate the building. However, ventilation should not be performed in a haphazard manner. It is a subject in fire fighting second in importance only to the application of water—and in many cases is essential to permit proper application of water. Every fireman should be thoroughly acquainted with it.

What is ventilation?

Ventilation, applied to fire fighting, means the planned and systematic removal of smoke, gases and heat from a structure and is performed for any of several reasons:

1. To save life by removing smoke and gases endangering occupants of the building who are trapped or unconscious.
2. To discover exact location of fire by allowing smoke to lift.
3. To permit firemen to enter and remain in the building to extinguish the fire and search for helpless occupants, as well as prevent extension of the fire. At most fires, the purpose of ventilation is to permit the firemen to advance close to the blaze and extinguish it quickly with a minimum of damage. The danger of asphyxiation is reduced, discomfort lessened and visibility improved to make operations safer and more efficient.
4. To prevent backdraft or smoke explosions. The so-called "backdraft" or "smoke explosion" is actually an explosion of carbon monoxide mixed with air. Carbon monoxide is given off at fires where there is insufficient ventilation for complete combustion. If a door is opened, sufficient air may enter and mix with the carbon monoxide, forming an explosive mixture. If there is sufficient heat present to ignite this mixture, an explosion may result. This is a rare occurrence, but a dangerous one responsible for many deaths and injuries. Therefore, the possibilities must be considered. Proper ventilation may prevent it or lessen its harmful effects.
5. To control spread of fire. Heat rises until it meets an obstruction such as a roof or ceiling. It then travels horizontally, seeking an opening where it may rise again. An opening made in a roof will "pull the fire" to that opening and allow it to vent upward into the atmosphere through that opening. Air currents are set up which cause the fire to move in that direction and tend to keep it from spreading elsewhere. Such an opening made directly over the fire will help to localize it, but an opening made at another spot will draw the fire to that location.

When should ventilation start?

Ventilation should be performed at fires in buildings, ships or other enclo-

*Adapted from "Fire Service Training" Volume 1—No. 3, published by the Wisconsin State Board of Vocational and Adult Education, C. L. Greiber, director.

Smoke ejector in use as blower over sidewalk grating during smoky basement fire. Note use of ladder as protective measure to prevent firemen from falling into opening—*Philadelphia F. D. photo by Kennedy*

Paterson, N. J., fire fighters open up attic during residential apartment blaze last December. Fatal fire took lives of three small children

When a window shade will not roll up easily, it may be removed by a short turn of the roller. Closed shades, blinds and curtains may obstruct ventilation through open windows and should be opened or removed—*West Milwaukee F. D. photo*

sures where smoke is present; also where gases or fumes have accumulated from causes other than fire.

Ventilation should begin as soon as water is up to the nozzle, not before. Opening up a building permits more air to get to a fire and accelerates burning. A charged hose line must therefore be ready for action as soon as ventilation begins. There is an exception to this rule: A skylight, scuttle cover or door at the top of a stairway in a multistoried building may be opened to prevent "mushrooming" or heat and smoke banking up on the top floor, when this would endanger human life. This can be done without waiting for water.

Ventilation locations

1. **At the roof:** Heat and smoke rise, accumulate at the topmost point, then start banking down. An opening in the roof will permit smoke and heat to escape rapidly. When there are no natural openings in the roof such as skylights, scuttle holes, etc., and conditions are not severe enough to warrant cutting a hole, ventilation of the attic or top floor must suffice. Roof ventilation is often valuable even though the fire is in the lower part of the building, or in the basement. A hole may be cut in the roof when fire is in the cockloft or top floor and sometimes when fire is elsewhere in the building and a heavy smoke condition prevails on the top floor that cannot be removed sufficiently by other means.

2. **At windows:** Windows should be opened on the floor where the fire is located and on all floors above that where the smoke has accumulated. Usually there is no advantage to opening windows on floors below the fire.

3. **At doorways:** Doors should be opened to permit air circulation to remove smoke.

4. **Any other** covered or partly covered opening on a level with or higher than the fire should be opened.

How is ventilation performed?

When an entire building is to be ventilated, such work should begin at the top of the structure and proceed downward, floor by floor. If the lower part of the building is opened first, fire may break through the window openings there and make ventilation of upper floors impossible or endanger men who may be ventilating or performing other duties above the fire.

Opening roof: Firemen go to the roof and remove scuttle covers, skylights, etc. and sometimes cut holes in

the roof surface. One large hole is better than several small ones. It should be cut directly over the fire, if possible, but not at a point that would endanger an adjacent building.

Skylights may be removed by prying loose the coaming and lifting the skylight or by loosening the coaming on three sides, leaving the fourth for a hinge and folding the skylight back onto the roof. When removal is not feasible, individual glass panes may be removed without damage by prying up the metal divider strips and sliding the glass out. If no other means will work, the glass may be knocked out with an axe or any other tool.

Opening windows: If conditions permit, this should be done by firemen working from the inside. Blinds and shades should be raised or removed and drapes and curtains pushed back or removed to permit smoke to escape. Screens should be removed and storm windows removed or broken out. Some fire officers believe that double-hung windows should be opened two-thirds of the way from the top and one-third from the bottom, but this is of little consequence. The main point is to get the window open at the top to let the smoke escape. Fresh air will find its way in to replace it. Good cross-ventilation can be accomplished by opening windows on the leeward (away from wind) side of the building at the top, and those on the windward side from the bottom.

Casement and factory-type pivoting windows have to be opened according to their design. Many windows are difficult or impossible to open in the allotted time. If smoke conditions warrant it, they should be broken. Glass is the cheapest part of most buildings and much valuable property has been destroyed by flames because firemen hesitated to break windows that couldn't be opened.

A quick way to break glass above the ground floor is to raise a ladder and let the top of it fall against the window. It can be moved from window to window, doing the job much quicker and more safely than could be done by a man working from a ladder.

Plate glass show windows in most stores usually have a lighter glass transom located above the heavier glass. This is easily broken and often affords adequate ventilation, permitting the show window to remain intact. In extreme cases the plate glass may be removed. In either situation, if there is a partition between the store and show window, it must be removed.

Basement fires: Basement or cellar fires present special ventilating problems. Windows, where present, and doors should be opened. Sometimes windows are recessed in enclosures covered with an iron grating at street level. This grating may be removed by breaking the concrete at the corners, or the bars may be spread and a pike pole is inserted to break glass.

When deadlights are present in the sidewalk over a basement, they may be knocked out with the back of an axe, a hammer head pick, or a maul. The removal of coal chute covers may also assist ventilation. In some stores, the removal of panels under the front of the show window gives direct access to the basement, affording good ventilation.

Where no other means is effective a hole may be cut in the floor above the basement. This should be guarded by a charged hose line. Hot air heating registers in floors can be utilized by removing the grille and pushing down the hot air duct. This will have the same effect as cutting a hole in the floor and is quicker and less damaging.

Ship fires: Some fire departments may be called upon to fight fires aboard sea-going cargo ships. Ventilation aboard ships calls for "trimming" ventilators, that is, turning the ventilating funnels away from the wind, removing hatch covers (it should be remembered that there may be additional hatch covers at the "tweendeck" level), and opening lazaret hatch doors. Engine rooms are often equipped with skylights similar to those on the roofs of buildings which may be treated in the same manner to effect ventilation.

Mechanical ventilation: In addition to ventilation by natural means, movement of smoke, gases and air can be forced by mechanical devices. Fans of varying size are employed by many fire departments; these usually range from 5,000 to 15,000 cfm capacity.

Since the use of fans has become popular, there is a noticeable tendency in small fire departments to neglect natural ventilation. In fact, many poorly trained fire departments depend almost entirely on mechanical ventilation and overlook the advantage of opening windows, etc., as previously described. Smoke ejectors are valuable when properly used, but they are best used as an adjunct to natural ventilation, or in cases where natural ventilation is ineffective.

If the results of natural ventilation are not satisfactory, a smoke ejector should be used. It must be remembered that if not properly employed, they can do more harm than good. An exhaust fan will draw the smoke and fire toward the fan; therefore, the location must be carefully selected.

This problem was exemplified at a recent fire in the attic of a one-story dwelling. The firemen were able to enter the ground floor with ease, only a slight amount of smoke was present there. They placed a blower fan in the front doorway and an exhaust fan

Windows may be opened or broken from above by use of a pike pole. Note fireman stands to one side for protection against heat that may issue after opening is made. This is an important safety tip *—West Milwaukee F. D. photo*

in the rear dorway. In a moment a large volume of smoke was drawn from the attic into the first floor and the firemen were driven out of the building.

Fog nozzles have been used for ventilation for more than 80 years, yet today we find many fire departments using them only for extinguishing the fire. Common fog nozzles induce a great amount of air to follow the fog stream and can move from 10,000 to 30,000 cubic feet per minute depending upon size, type, fog pattern and location of nozzle.

To remove smoke with a fog nozzle, the nozzle is held *inside* a window or doorway and aimed toward the outer air. Experiments in Wisconsin show that the wider the fog pattern, the greater the air movement, but the pattern should not cover the entire opening. Better results were obtained when the nozzle was a few feet from the opening than when it was close to it. The same precautions mentioned for the use of fans apply also to the use of fog nozzles for ventilation.

Ventilation precautions

It should be remembered that a hose stream aimed into a window, doorway, skylight, hole or other opening has the same effect of nullifying ventilation as if the opening had a cover placed over it. At the same time openings should not be made where they may jeopardize nearby structures by extending the fire unless adequate protection in the form of hose streams is at hand.

When holes for ventilation are cut in a floor, they should be near a window if possible. The relieved smoke will then go through the open window. If men with a protecting hose line are driven out of the building, upward extension of fire through the hole can be prevented by directing a stream from the outside through the window. It is not desirable to cut holes in the path of travel because firemen may step into them.

Whenever a hole is cut in a roof or floor, or a skylight or scuttle cover is removed, the opening should be probed with a tool or pike pole to find if there is any obstruction, such as a ceiling, below the hole. When such obstruction is found, it should be opened or pushed down.

When breaking glass, make sure no one below will be struck by the falling debris. Warning should be given in ample time. □□

Photos illustrate how one man may work from a ladder placed between two windows to open or break both without moving from his position. If the ladder were directly under the window, he would be endangered by falling glass. If he were higher on the ladder, he might be endangered by a heat blast following ventilation—*Photos courtesy West Milwaukee F. D.*

Priming Centrifugal Pumps

By R. B. SARGENT, *Hale Fire Pump Company*

DESPITE COMMON fire service terminology concerning pumping at draft it is not quite true to say that a pump is *lifting water from the source*. Actually the pump is creating a partial vacuum within its suction chambers, that is, a pressure lower than atmospheric. The atmospheric pressure on the surface of the water being pumped then forces the water up through the suction hose and into the pump.

When the pump is full of water, it will create quite a high vacuum, but when the pump has been drained, containing only air, it is a very poor vacuum pump. In order to obtain water we then need to create a vacuum within the pump by some other means, so we use a priming pump, which should develop a vacuum of at least 22 inches of mercury. The priming pump withdraws air from the fire pump, reducing the pressure within its casing substantially below atmospheric pressure.

The question is often asked, "Should a pump be primed from the top of the pump or from the suction of the pump?" The answer depends upon whether the pump is running or stationary during the priming operation. It is the purpose of this discussion to illustrate why, for consistently reliable priming, the pump should be primed from the suction side near the impeller eye when the pump is running and why it should be primed from the top of the pump when it is stationary.

The sketches illustrate the reason for this. For simplicity, no discharge valves, relief valves, priming pump or other accessories are shown. A single-stage pump is sketched, the principle being the same with two or more stages. The source of vacuum may be a pump, ejector, or the engine intake manifold.

When priming from the top with the pump stationary, the primer is operated until a steady stream of water flows from the primer discharge. It is then shut off and the main pump is put in gear. When priming from the suction of the pump, pump running, the primer is not shut off until a steady stream is flowing through the discharge hose. Any unavoidable air trap in the suction hose is more easily removed by priming from the suction of the pump.

Periodically the priming system system should be used to create a vacuum of at least 22 inches of mercury within the pump and attached capped suction hose. With the priming pump shut off, the vacuum should drop no faster than 10 inches in 10 minutes. For such a test a mercury manometer should be used rather than the compound gage, because it is easier to read and more accurate. The operating manual furnished with the pumper should be carefully followed.

Air leaks in a pump make priming uncertain. If the pump is primed in spite of air leaks, operation will be rough and efficiency will be lowered. The maximum capacity of the pump will be substantially reduced, especially on lifts higher than normal and at high altitudes. While it is hard to define the size of an air leak, any air leak that drops vacuum faster than 10 inches in 10 minutes will cause reduced performance, rough operation, hose pulsation and a ragged stream.

When pumping from draft, or the booster tank, through a ¾-inch or 1-inch booster hose, the flow through the pump is so small compared to the capacity of the pump that it is difficult to always scavenge all the air from the pump, resulting in unexpectedly low pressure. It is a good practice when this occurs to momentarily open the 2½-inch discharge valve. The larger flow for a few seconds while the priming pump is still running completes removal of air.

Figure 1 shows a typical air trap in the suction. The unit shown is a portable centrifugal primed from the suction inlet with an exhaust ejector while the pump is running. The effect of an air trap on priming is the same, however, regardless of the size of the pump or method of producing vacuum.

With an inverted air trap in the suction hose, water rising in the suction flows over the "hump" and runs into the pump, leaving air trapped at the top of the "hump." The pump, full of water, shows pressure. The discharge valve is opened, flow through the suction hose increases sweeping air down into the pump, resulting in temporary loss of prime.

As under priming procedure (3), the priming is continued until all or nearly all of the air swept over from the trap is scavenged from the suction of the pump. The discharge valve need not be closed while scavenging, but, depending on the lift, it may speed priming to do so. If the air trap volume is large, scavenging will take longer than if the air trap is small.

When the pump is primed stationary from the top of the pump (Procedure 1), each time the primer is shut off and the pump is started some of the air is swept into the eye of the impeller, breaking the prime, and the pump is running as in Procedure 2. It is now necessary to stop the pump. Start priming again until water runs from the priming pump. Shut off primer, start pump, etc., until a complete prime is reached. This may take two, three or more trials to finally prime depending on the size of the air trap. It is for this reason that air traps are more easily handled by priming from the eye with the pump running than by priming from the top of the pump with the pump stationary. □□

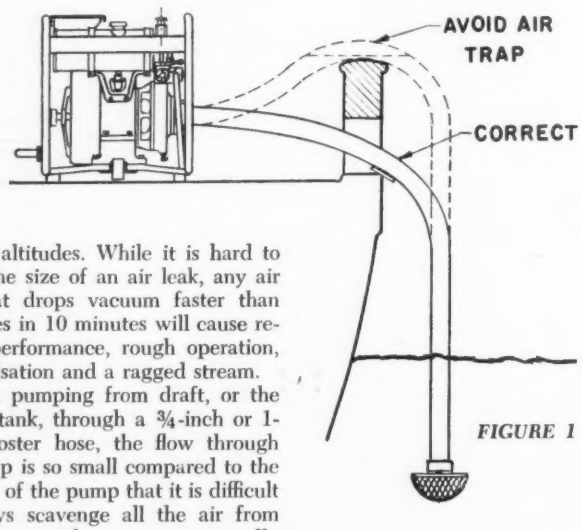


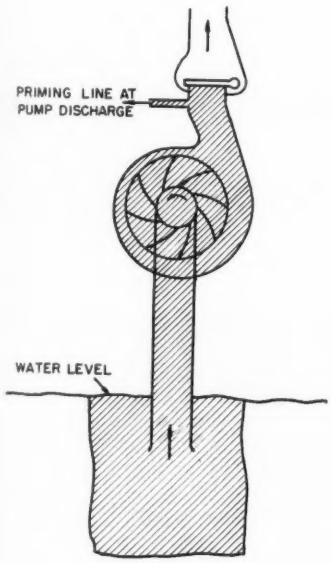
FIGURE 1

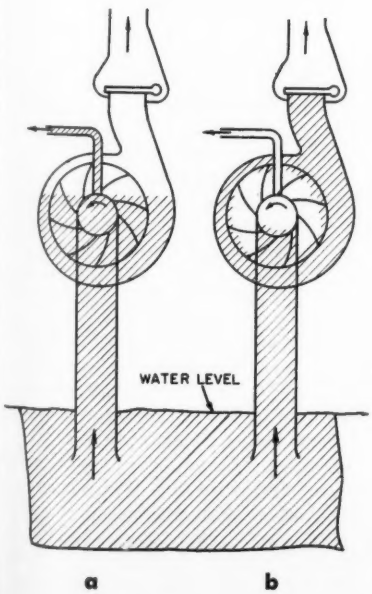
PROCEDURE 1—PRIMING FROM DISCHARGE,
PUMP NOT RUNNING WHEN PRIMING

This method primes consistently.

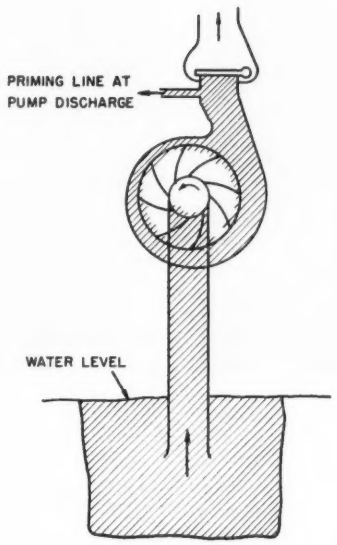
1. Pump fills with water.
2. Priming line shut off.
3. Pump started.

Water flows into suction and out discharge.





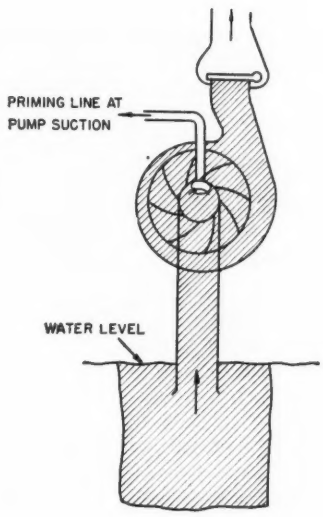
PROCEDURE 2—PRIMING FROM DISCHARGE,
PUMP RUNNING WHILE PRIMING



This method does not prime consistently.

1. Pump suction fills with water and enters pump.
2. Water flows by centrifugal force to outside of impeller and into discharge.
3. Air goes to center of pump, being lighter than water.
4. Priming system keeps on working but pulls only water, which slips through the air in the center of the impeller. Air remains in center.
5. Impeller cannot start moving water through the suction, pump and discharge line until it is full or nearly full of water.
6. When pump is running, remove the air from where the air is—the center of the pump.

PROCEDURE 3—PRIMING FROM SUCTION—
PUMP RUNS WHILE PRIMING



This method primes consistently.

1. Water rises in suction tube and fills pump.
2. Air goes to center of pump, being lighter than water.
3. Primer removes air from center of pump, near impeller eye.
4. Water will start to flow out discharge before all the air is removed, but full stream will not flow until all or nearly all air is removed from center of pump.
5. Primer to be kept in operation after opening discharge valves until steady stream flows.

PROCEDURE 4—PRIMING FROM SUCTION—
PUMP NOT RUNNING WHILE PRIMING

This method does not prime consistently.

Fig. A: 1. Primer raises water to top of suction, continues sucking water only, leaving air in top of pump and discharge.

2. Primer shut off.

Fig. B: 1. Pump started, throwing water to outside of impeller and discharge. Air comes into center.

2. Pump not yet primed, because running impeller cannot move water through suction, pump and discharge until it is full or nearly full of water, just as in Procedure 2. This method does not, therefore, prime consistently.

3. To complete the prime, restart the primer to exhaust the air from the center of the pump, while the pump is running, as done in Procedure 3. Therefore, for consistent priming a pump should be primed at the top when not running, and at the suction, close to the impeller, when running.

This sequence of four photos shows some of the valuable lessons that were learned in the test building: (1) The entire room is ablaze and fire fighting has not started. (2) Firemen attack the largest blaze from the open side of the house rather than under the porch roof. (Most house fires are reached in time to attack the blaze from the inside. Burlington firemen are trained to go directly to the blaze before using water.) (3) When fog was discharged into the window from one side of the room, the fire followed path of least resistance and roared out the opposite window. Teamwork and coordination are vitally necessary in such operations for if there had been men on the porch in front of the window, they would doubtless have been severely burned. (4) In the final photo of the sequence, the room fire is extinguished, but there is still fire in the roof

In Burlington—"Hot Fire" Training

Dry practice runs are held on Wednesday afternoons when most businesses in Burlington are closed. Pumpers have laid their lines and are back out of the way of hydrants. Hand tools were laid at the curb before starting the reverse lay of hose back to the hydrant

Fire Chief Roma Fortune (pointing) confers with State Deputy Fire Marshal Sherman Pickard, a former member of the Burlington department, who conducted the training practice fires

OLD HEADS in the fire service say that to train firemen you first need a hot fire. No fireman can be considered experienced until he has felt the heat, swallowed the smoke, and fought a fire that has fought back. A study of the Burlington, N. C., Fire Department reveals that they consider experience the best teacher and are providing *planned* and *controlled* experience *before* fire breaks out.

Although regular training in the Burlington Fire Department includes training tower drill, hose lays, oil pit fires, rescue work, first aid, and intensive skull practice in the classroom, Fire Chief Roma Fortune has long sought to provide more controlled training in combating and extinguishing fires under conditions that the men may have to face in actual fire fighting. For example, a public-spirited property owner recently donated a condemned residence to be burned specifically to provide training for the fire department. The location of the house was ideal for acquainting the department with the problems of fighting fire in an area adjacent to the business section. Water curtains were set up on all sides to protect adjoining property and the property owner was assured that the lot would be cleared of rubble and debris after the fire.

Numerous fires were started and extinguished to provide training for all companies in the use of chemical extinguishers, fog nozzles of various types, rescue operations, reduction of water damage, working in dense

Continued on page 343

By JAMES PAUL McGAUGHEY
Personnel Officer,
City of Burlington, N. C.

and Pre-Fire Planning Provide Controlled Experience

ROSE'S 5 & 10 cent store, 340 South Main St. MANAGER: George R. Keim, 323 N. Park Ave., Tel. CA-6-8964

ACTION:

Engine #1 Main street lay one line to sidewalk door to basement. One line to 1st window on left 2nd story, one line in each front door working from hydrant at Front and Main streets.

Engine #2 Spring street side, lay one line to 2nd window from left and the 2nd window from the right 2nd floor. One line in back door from hydrant at Front and Spring streets.

Engine #4 Davis street side, lay two lines into the water tower, one line into first window from the right on second floor and one line into side door. Working from hydrant at Spring and Davis streets, or Davis and Main streets depending on the location of the Aerial truck.

CAUTIONS:

First floor is heavily loaded. There is kerosene storaged in basement. Open under floor throughout building. Open elevator shaft in rear of building on Spring street side at the last door. Open stairs from street on Spring side first to second floor. Electrical switch on basement stairs. Open Air Conditioner Duct in center of first to second floors.

ACCESS:

Entrance from Main, Spring, and Davis street sides. Enter Basement from sidewalk level in front of building on Main street side. Enter second floor from windows from Main, Spring, and Davis sides.

ROOF:

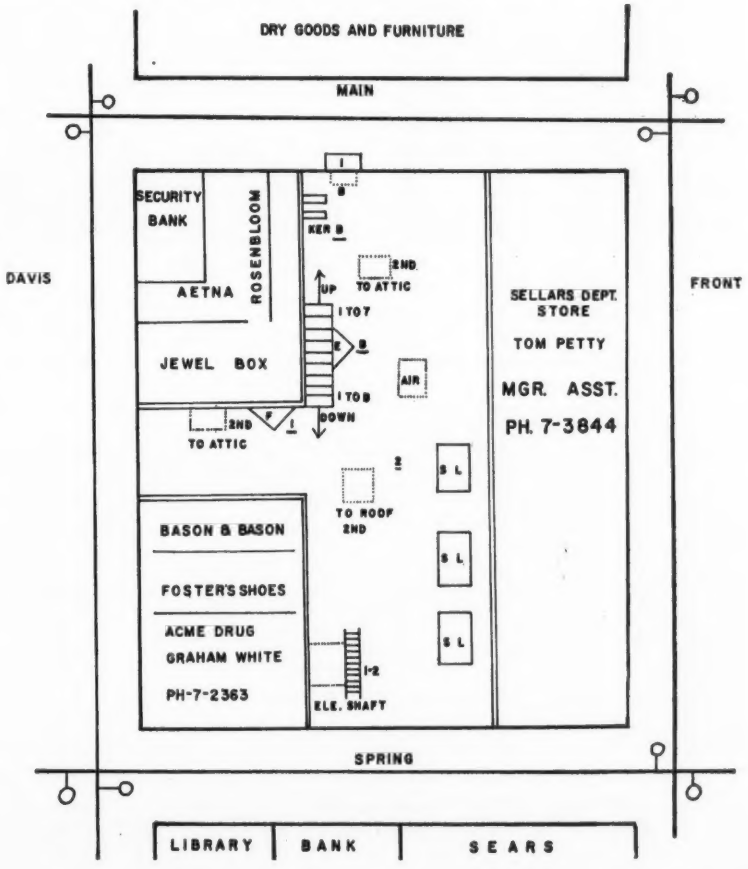
Second floor center of building on Spring street side.
Skylights Spring street side—2nd.
Windows located on Main, Spring, and Davis street sides.

CONSTRUCTION:

Brick, 2 story, and Part Basement.
Roof, Tar and Gravel on Wood.
Floors, 1 and 2 are of wood. Concrete Basement.

OCCUPANCY:

Basement: Storage, General Merchandise, and Two Tanks 275 gal. kerosene.
First floor: Sales of Merchandise.
Second floor: Storage of General Merchandise.



Boy Scouts of America awarded plaque to F.D.I.C. in recognition of its "Significant Service to American Youth Through Scouting." Making presentation was J. A. Hess, BSA (center); Co-Chairman and Host Chief E. A. Hamilton (left) and Chairman Emmett T. Cox accepted for the conference

1960 F.D.I.C. Sets New Memphis Attendance Record

Chief Raul Gandara, Fire Service of Puerto Rico, luncheon speaker on first day, emphasized international exchange of fire protection information, eloquently described the necessary qualifications for "Better Firemen"

Conference keynoter, the Rt. Rev. Monsignor William J. Gorman, chaplain, Chicago Fire Department, challenged all conference officials, speakers and panelists: "You lead and encourage—we will follow!"

EXCEPTING unseasonable weather, the 32nd Annual Fire Department Instructors Conference held for the 26th straight year in Memphis, Tenn., March 1 through 4, was a record event. A total of 2,594 participants from 44 states, the District of Columbia, Puerto Rico and Canada registered to shatter all previous attendance records.

In keeping with past conferences, Chairman Emmett T. Cox called the overflow assembly in Ellis Auditorium to order at 9:13 a.m. on Tuesday, March 1. Rt. Rev. Monsignor M. F. Kearney, a long time friend and participant in the conference affairs, gave the invocation. The welcome to Memphis was extended by Mayor Henry Loeb, Vice Mayor and Fire and Po-

Thursday's "Question Box" panel was moderated by Rev. Stephen King, assistant chief, Leeds, N. D., and included Assistant Chief James Flowers, Laurel, Miss.; Iowa Fire Marshal E. J. Herron; M. D. Hulsey, University of Alabama; Captain C. O. Peters, Lynchburg, Va.; Chief L. C. Ray, Rockford, Ill.; and L. E. Shingledecker, Nationwide Insurance Co.

Chief John Pavlik (above, left), West Milwaukee, Wis., detailed his department's use of photography in its operations and how original investment of "200 for used equipment" has paid off

Sherman Pickard (above, right), director of firemen's training, North Carolina, described "Code" system of operational training designed to speed action, eliminate duplication and increase efficiency

Left: Dr. Lester L. Williams, Colorado Springs, demonstrates safety belt for use by firemen riding rear step of pumpers to illustrate point in his talk titled "Stay on the Rig"

Deputy Chief Raymond Hill, Los Angeles fire marshal, described and illustrated recent school fire tests in talk entitled "Look Out For the Smoke"

Commissioner Claude A. Armour presents badge of honorary membership in Memphis Fire Department to Roi B. Woolley, former editor of FIRE ENGINEERING *at ceremony following Wednesday luncheon*

lice Commissioner Claude A. Armour, and Acting Fire Chief Edward A. Hamilton.

As soon as the preliminaries were accomplished, the business program swung into high gear and continued without letup until final adjournment on Friday, March 4. The only problem occurred when a heavy storm, which struck a major part of the country on March 2, coated the Memphis area with heavy sleet. This caused postponement and finally cancellation of the outdoor demonstrations.

The program committee quickly shuffled the schedule as provided in the original planning and the smoothly flowing conference continued without noticeable effect. As a result of the timing changes, W. Fred Heisler, Oklahoma fire training consultant, was called on to address the assembly. "Fred" responded to his pinch-hitting role by delivering a sparkling 30-minute talk on fire department leadership problems. His audience gave him a standing ovation.

A highlight and a "first" for the conference was the presentation and training film on "The Fire Service and Nuclear Weapons" by LCDR W. L. Zimmerman, U. S. Navy; and M. T. Kincannon, technical advisor, Atomic Weapons Training Group, Defense Atomic Support Agency, Sandia Base, N. M. The lecture and film presented unclassified information on fires in atomic weapons and was especially prepared for the F.D.I.C. It is expected that the film and a training outline will be available for fire service use in the near future.

The Memphis Fire Department members played their usual stellar role as "hosts" and provided lunches and transportation for their guests. At the final luncheon, the 2,000 or more visiting fire fighters present gave them a standing vote of thanks.

The F.D.I.C. Follies concluded the conference. The well-placed variety show under the capable direction of District Chief Robert Maynard featured many top-notch acts and was well received. Final adjournment came with benediction pronounced by Robert F. Hamm, assistant conference secretary. It was announced that the 1961 conference would convene in Memphis on February 28 continuing through March 3. □□

Commissioner Armour pins new badge on Chief Edward A. Hamilton as Mrs. Hamilton looks on during surprise ceremony. The diamond-studded badge was presented by the members of the Memphis Fire Department

Aircraft as it was found hanging from side of eucalyptus tree

Hydraulic rescue jack in use during effort to extricate victim

Plane Crash in Tree Poses Time-Consuming Rescue Problem

AIRCRAFT CRASHES are usually thought of as occurring or eventually ending up at ground level, where the multiple problems they create may then be resolved in the most effective manner. San Francisco firemen recently discovered that such thinking is not always accurate and sometimes an aircraft can fall in such a manner that it is not easy to locate or approach, even in or near a residential area.

Telephoned alarm

About 6:45 on the evening of February 5, Fire Dispatcher Jim McCaulley of San Francisco received a telephone call from a woman who said she "thought" a plane had crashed in the heavily wooded area of Mt. Sutro, directly to the rear of the University of California Hospital in the northwestern section of the city. Radio Dispatcher Jim Holmes notified Captain Ray Jensen, acting battalion chief of the fifth battalion, who responded immediately.

When Jensen arrived at the scene, hospital guards met him and led him to a spot where small parts of a plane had been found. Heavy rain had drenched San Francisco for several days and a thick fog settled over the area reducing visibility to a minimum. The captain radioed for a truck company with a portable light unit. Truck 12 was dispatched at 7:12 p.m., and an ambulance and a police unit also responded.

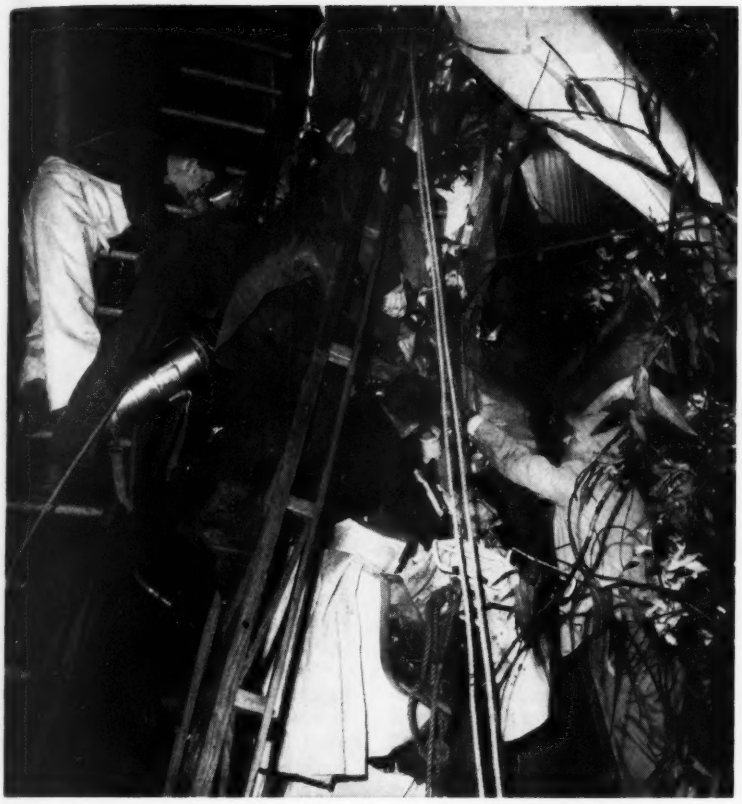
When Chief of Department William F. Murray was notified of the situation, he dispatched Light Wagon 1 to the scene at 7:22 p.m. At the same time, Bruno Bassi, chief of the third division in which the accident occurred, was notified and responded.

By CHET BORN, *Photographer*
San Francisco Fire Department

Because of the heavily wooded area and the increasing fog, Chief Bassi called for another light unit, and at 8:09 p.m., Light Wagon 2 was dispatched. Meanwhile, the firemen, police and hospital guards were searching the area where the plane parts were found. All available district units of the police department were sent to the scene to control traffic and to aid in the search.

About an hour later, a light Cessna-type plane was sighted, wedged about 25 feet high in a eucalyptus tree about 300 or 400 yards from the nearest roadway. Most of the plane had been sheared off as it crashed; only a crumpled portion of the fuselage remained.

The area was thick with trees and



Fire fighters employ acetylene cutting torch in late stages of difficult operation

underbrush and was mostly hilly. In some sections, steep slopes made walking extremely difficult, and no vehicles could reach the spot.

It was immediately determined that one person was trapped in the plane and was still alive. Two others were dead. One was hanging head down from the wreckage with the lower part of his body crushed against the tree, while the third was on the ground, the body cut in two.

Chief Bassi ordered ladders brought to the scene. Another truck was called by radio at 8:59 p.m., and Truck 6 was dispatched. Rescue Squad 2 with burning equipment and power tools was dispatched at 9:18, and two minutes later, Engine 40 was ordered to the scene to provide additional manpower.

A radio engineer of the department of electricity and his assistant responded with 18 pack sets and set up communications at the nearest roadway. Chief Murray immediately established radio contact with the men at the scene.

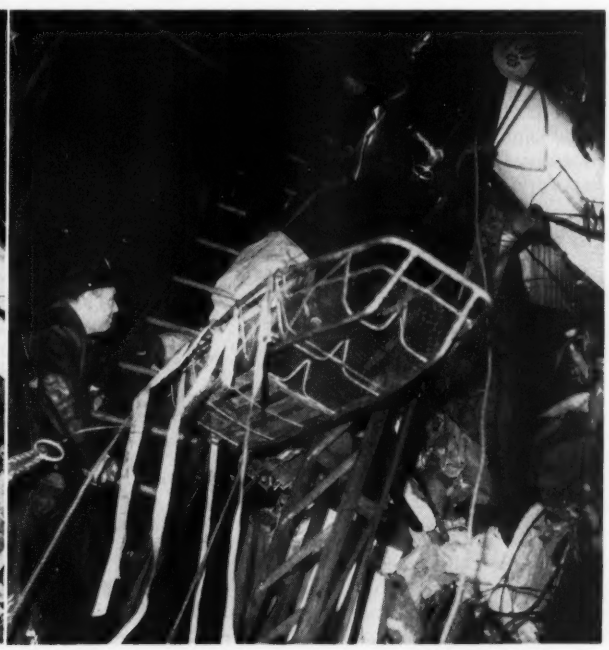
Ladders, portable light units, forcible entry tools and ropes were carried through the thick underbrush. The ladders were raised on a 40-degree slope and had to be tied to trees and held by men on the ground to prevent their falling.

As three firemen started rescue operations, all that could be seen of the man trapped in the plane was one booted foot. To add to the difficulties, he was still strapped to the seat and his arms were jammed above his head. Working with hydraulic rescue jacks, power tools, hack saws, cutting shears, crowbar and other forcible entry tools, the men toiled inch by inch toward the victim. At times, sections of the plane were cut open, tied with ropes and then pulled back and held by the men on the ground so that laddermen could gain further entrance.

The victim was conscious and

Continued on page 331

Chief Bruno Bassi (ladder, lower left) directs rescue effort



Stretcher is raised to site as long struggle nears conclusion

Military and Civilian Forces Unify to Fight Honolulu Fires

Larry Duhrkoop, Oahu Armed Forces fire protection coordinator, reads the fire fighting pact he authored which will save $600,000 a year—*U. S. Navy photo*

HAWAII isn't just the first state to be composed of a group of islands. It is also the first place in the United States where Army, Navy, Air Force and civil authorities agree to fight fires together and save taxpayers an estimated $600,000 a year. According to military officials, Honolulu is the "only place in the world" where the three military services have united as a single party to sign a fire fighting agreement with a city and county. Tri-service commanders and the mayor of the City and County of Honolulu signed the unique mutual aid fire fighting pact last June. Honolulu Fire Chief William K. Blaisdell and Larry Duhrkoop, Armed Forces fire protection coordinator, said the program will save the city and federal governments $600,000 in the first year. This is because joint operations will make it unnecessary to build the number of new fire stations that would be required otherwise.

The pact is the realization of a dream for Duhrkoop, who was formerly assistant to the Portland, Ore., fire chief. As a Naval Reserve officer on active duty during World War II, he was made fire marshal of the old Pearl Harbor Naval Yard and stayed on as a civil service employee following the war. His first effort was the consolidation of all the Navy fire fighting units on Oahu which resulted in an estimated $175,000 annual saving. Duhrkoop then worked toward massing all the military fire fighters which is credited with saving an additional $237,000 a year. He has since been installed as the first Armed Forces fire protection coordinator and now heads all military fire fighting units.

By JIM WOOD
Journalist Second Class
U. S. Navy

Last August, Duhrkoop received the highest award a civilian employee can receive from the Navy from Admiral Arleigh A. Burke, the Chief of Naval Operations. The citation stated, "The Navy Superior Civilian Service Award, which is the highest honorary award the Chief of Naval Operations can bestow upon a civilian employee of the Navy, is presented to Mr. Duhrkoop for his effective leadership as Fourteenth Naval District Fire Marshal, which is characterized by enthusiasm, initiative and creativeness, and force of personality, and which has achieved and sustained an organization noted for its superior group accomplishment, efficiency and high morale, and for the significant contribution which he has made by saving the U. S. Armed Forces, Pacific, and the City and County of Honolulu significant sums of money while simultaneously improving the quality of fire protection. His contribution to the other Armed Services and the civilian community has been such as to bring credit on the Navy and is deserving of special recognition."

Late in 1949, Duhrkoop drew up a preliminary mutual assistance pact which was agreed to by the military and civilian authorities. The recent, permanent agreement, also written by Duhrkoop, was signed by Honolulu Mayor Neal S. Blaisdell (brother of the fire chief); Rear Admiral E. A. Solomons, 14th Naval commander; Major General J. E. Theimer, 25th Infantry Division commander and Brigadier General P. T. Preuss, Pacific Air Force Base commander.

The agreement provides: (1) Sending men and equipment to each other's alarms when requested; (2) maintenance of a radio and a telephone fire alarm network; (3) establishment of a tri-service and city training board to standardize training of civilian and military fire fighters. In addition, city firemen will be given free training at military fire fighting schools and the City of Honolulu will provide first-alarm service at military installations where there is no fire fighting equipment. In turn, the military will do the same where its equipment is nearest the scene of a fire in civilian areas.

The key provision in the new pact permits a fire fighting unit from any military base or any city fire station to assist at any incident in either an active or standby status. A blaze earlier in the year at the Pearl Harbor Officers' Club was a good example of the teamwork advocated by the old agreement, although the 1950 pact wasn't binding. Fire companies from adjoining Hickam Air Force Base and Honolulu units converged upon the blaze quickly to aid Navy fire fighters. As the assisting companies left their areas, other military and civilian units sent some of their equipment and men to man the empty stations. □□

Typifying the fire fighting teamwork on Oahu are, left to right, John T. Mayfield, Schofield Barracks; George H. Rausch, Hickam Air Force Base; William K. Blaisdell, Honolulu Fire Department; Joseph L. Walker, 14th Naval District Consolidated Fire Department and Frederick J. Edstrom, Fort Shafter—*U. S. Navy photo*

Battalion Chief Robert Parsons, L. A. County Fire Department and Battalion Chief Ernest Estevez, Culver City Fire Department, look on while Roland Barton, L. A. County Fire Department helicopter pilot demonstrates controls of department helicopter. Demonstration was part of observation and training tour of Culver City chiefs with L. A. County—*L. A. County F. D. photo*

Cooperative Project Broadens Chief Officers' Experience

By CLIFF DEKTAR

A PROGRESSIVE TRAINING project for the Culver City, Calif., Fire Department's four chief officers involving an active observation tour with the Los Angeles County Fire Department has recently been completed. Initiated by Culver City Chief John Kearney, the two-month course included Kearney and Battalion Chiefs Ray Moselle, Burt Campbell and Ernest Estevez.

"We have a small (47-man) department and our men are well trained," said Chief Kearney. "There are certain elements of training that our chiefs simply cannot obtain in Culver City. For example, one of the major shortcomings is actual experience and training in command and strategy at major fires." He listed the basic benefits gained by assigning the chiefs to work with the County: (1) Tactics and strategy, (2) observing operation of a large and diversified department, and (3) mutual good will between departments.

After the idea for the training project occurred to him, Chief Kearney contacted L. A. County Chief Keith E. Klinger and Deputy Chief John Duncan. The County fire executives were pleased and delighted to cooperate. Chief Kearney was then assigned for two weeks working straight days with Assistant Chief George Brunton, County Division I commander. Brunton and Kearney were firemen together during World War II at Mare Island, Calif., Naval Shipyard. Brunton's Division I territory adjoins Culver City at several places. "It was an amazing experience to fully realize the complicated operations of a large department," Chief Kearney commented. "It gave me a much better idea of the over-all picture."

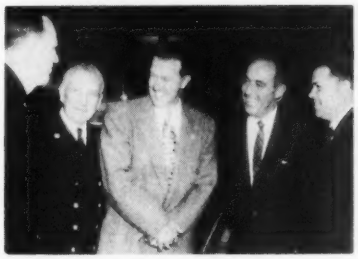
After Chief Kearney's two-week assignment with Chief Brunton, each of the battalion chiefs worked two weeks with Battalion Chief Robert Parsons out of the County's Battalion 3 headquarters in East Los Angeles. They worked on a 24-hour-shift basis with Chief Parsons, covering fires in the immediate battalion area and major responses elsewhere in County-protected areas. The Culver City chiefs also toured County facilities and inspected the department's helicopter.

Chief Kearney has requested and received approval from L. A. City Fire Chief William Miller to conduct a similar program for his chiefs with L. A. City in the future. "Culver City is surrounded by L. A. City and County," said Chief Kearney. "Frequently we have mutual aid responses and many borderline fires. By working with our neighbors, we'll certainly know them better. I'm sure, by the same yardstick, they'll know us better, too."

Chief Kearney's training ideas paid off with high dividend during the last series of major brush fires in the Santa Monica Mountains. "Last year," reported the Culver City chief, "all members of our department attended L. A. City's brush fire fighting school at the Mountain Patrol. Although we have little brush area in our city, I felt that the training would be valuable and come in handy at a time when we could help out in a major emergency."

During the height of the recent Topanga Fire, Chief Kearney dispatched a Culver City engine company to assist County firemen in battling the disastrous blaze in Big Rock Canyon. "I hadn't attended the brush school," the chief said, "and was amazed to see the skill and know-how my men had. In one situation, I must admit, I was scared silly. The fire came roaring down on us. I would have pulled the men out, but my captain was well trained, thanks to L. A. City's school, and calmly positioned the rig and men. Only then did I fully realize the benefit of the training received."

Chief Kearney firmly believes that the exposure his chiefs have had in working with the County, and later L. A. City, will pay big dividends in the future. "It's a two-way street for everyone. All departments involved will gain." □□



After completion of active observation and training tour of Culver City chief officers with L. A. County Fire Department, Battalion Chief Burt Campbell, Chief John Kearney, Battalion Chief Ray Moselle, L. A. County Fire Chief Keith E. Klinger and Battalion Chief Ernest Estevez chat informally in Culver City Fire Department headquarters

—*Culver City F. D. photo*

St. Paul Encourages Citizens To Rate Department's Efficiency

By FIRE CHIEF FRANK E. OBERG
St. Paul, Minn.

AS PART of a stepped-up public relations program, the St. Paul Fire Department initiated a plan last year of writing to every property owner who suffered fire losses of more than $50. With the assistance of a public relations counsel, who donated his services, a letter was drafted, expressing concern over the loss and asking the property owner to fill in and return a questionnaire. The letter explains that the questionnaire is devised to inform department officials of the property owner's opinion of the services rendered, consequently enabling the department to improve where indicated. The letter is signed by the commissioner of public safety and the fire chief.

From the start of the program in April 1959, to near the end of the year, more than 200 letters were sent out with return envelopes addressed to the commissioner of public safety. More than 75 per cent of the questionnaires were returned, an extremely high response.

In addition to filling in the questionnaire, the property owner is encouraged to add any remarks he deems warranted. Almost half of those who return the forms do this in from a few to hundreds of words.

When the questionnaires are returned, they are sent to the fire companies which responded to the alarm. They are read by all the men and then returned to the fire chief's files. This procedure has made the fire fighters more "public relations conscious" than they have ever been before.

Of those returning the questionnaires, 97 per cent indicate that the department is doing a commendable job. From April until the latter part of December 1959, only five replies indicated some dissatisfaction with the fire fighting methods. In all these cases, the complaint was investigated. A personal visit was made to the letter-writer, and the fire fighting techniques used, and the reasons for them, were explained. As a consequence, persons who were potential critics of the department, became its friends.

In one instance, the property owner wrote that when the firemen arrived, his wife was waiting with the side door open. He complained that instead of entering by the open side door, the firemen forced the locked front door, damaging the door, jam and molding.

A district chief assigned to investigate the complaint questioned the men who had worked at the fire. He learned that the men had first entered

Continued on page 347

CITY OF SAINT PAUL
Capital of Minnesota

Department of Public Safety

Tenth and Minnesota Streets, 1
ROBERT F. PETERSON, Commissioner
JOHN C. FELDMANN, Deputy Commissioner

BUREAU OF FIRE PROTECTION
Frank E. Oberg, Fire Chief

DIVISION OF FIRE PREVENTION
Howard J. Scannell, Chief

Dear Property Owner:

We are sorry to note that you recently sustained a considerable loss to your property through fire.

This was probably your first direct contact with the functions and assignments of the St. Paul Fire Department. We join with you in the sincere hope you will not again be faced with the hazards of fires and the resultant hardships which fires cause.

The St. Paul Fire Department is continuously training to improve its services to the citizens of St. Paul. As an aid to our evaluation of Department efficiency, your help is requested.

Officers and members of the Department are concerned about your opinion of the service they rendered when you called for assistance. Through learning your opinion of our emergency services, we hope to improve our Community function.

We hope you will take a few minutes to complete and return the questionnaire below. Your answers to these few questions will help officers and members gain firsthand knowledge of the efficiency or deficiency of services rendered at the fire involving your property.

Sincerely,

FRANK E. OBERG
Fire Chief

Robert F. Peterson, Commissioner
Department of Public Safety

NAME_____ ADDRESS_____

Did you report the Fire? Yes___ No___

Was the fire reported by some other persons? Yes___ No___

Was prompt response made by apparatus? Yes___ No___

Were the fire fighters courteous? Yes___ No___

Do you feel that unnecessary structural damage was done? Yes___ No___

Do you feel an unnecessary amount of water damage was done? Yes___ No___

In your opinion, was the service rendered satisfactory? Yes___ No___

In your opinion, were the officers and members efficient? Yes___ No___

REMARKS: Please express your opinion of the manner in which your call was handled. Use the reverse side of this questionnaire.

Chief Karl Lehr of Plain Township, Ohio says

"We've got power to spare with our Hall-Scott Engine"

Plain Township's Volunteer fire department took delivery of its American Fire Apparatus-built pumper last summer. It passed the qualification tests, with flying colors, exceeding the rated capacity of 750 GPM by almost 30%—and the Hall-Scott engine was "just loafing," according to Chief Lehr.

No wonder, for the Model 590 Hall-Scott gasoline engine in the Diamond T chassis of this new vehicle delivers a peak 242 horsepower; more than enough for pumping or boosting hydrant pressure, and top-notch road performance in all terrains.

Hall-Scott engines are the preferred power plant for fire apparatus with chiefs the nation over. Their reputation for dependability, low maintenance, and tough, lugging power that never lets you down are the reasons. If you want the best for your next piece of apparatus, specify a Hall-Scott engine, designed especially for fire service. There are three models, ranging in horsepower from 242 to 320 maximum. If you would like further information, write to Hercules Motors Corp., Canton, Ohio.

HERCULES

HERCULES MOTORS CORPORATION
Canton, Ohio

WATCH HERCULES FOR THE "NEW LOOK" IN ENGINES

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

Sonotone Has New Rechargeable Battery

Sonotone Corporation, Elmsford, N. Y., has introduced an industrial version of its rechargeable battery cartridge. The heavy-duty model is designed for those who need several hours of steady, reliable light from flashlights and uses patented sealed battery cells of the sintered-plate, nickel-cadmium type.

The new cartridge is said to give approximately three hours of light on a 16-hour charge when used with a PR-4 or PR-6 bulb. Charging is said to require merely unscrewing the cap and inserting the prongs in any 110-volt a.c. outlet.

The cartridge fits most flashlights which now use two "D"-size cells end to end. A complete recharging unit is incorporated with the sealed cells in a metal case which is claimed to be leakproof and shockproof.

Ansul Announces 12 Summer Fire Schools

Ansul Chemical Company has scheduled 12 2½-day schools of advanced fire fighting techniques at its test station at Marinette, Wis., from May 16 to September 26.

Employees of Ansul customers are eligible to attend the school without charge except for living expenses. Trainees will be instructed in the use of hand, wheeled and large-capacity Ansul equipment. Most of the school will be taken up with actual fire fighting practice. Group discussions and training films will round out the curriculum.

Ansul fire equipment users who want to send representatives to one of the fire school sessions should contact the Ansul regional office in their area. Regional offices are located in Paoli, Pa.; Milwaukee, Wis.; Cleveland, Ohio; Kansas City, Mo.; and Burlingame, Calif.

Audible Signal Device

Wheelock Signals, Inc., Branchport Road, Long Branch, N. J., have introduced an audible building warning signal for mounting in areas where coverage must be maintained over a considerable distance and for penetration of high-level noise areas. A vibrating diaphragm is driven by a contactless armature which is said to produce an audio output in excess of 105 db at 3 feet. It operates on standard 60-cycle circuits.

New LaFrance Plant Opened in Etobicoke

LaFrance Fire Engine and Foamite Ltd., Canadian affiliate of American LaFrance, Elmira, N. Y., has opened a new modern head office, factory and warehouse at 60 Coronet Road, Etobicoke, Ont., a Toronto suburb. The $361,000 building comprises 41,000 square feet on one floor and was designed to streamline production flow and shipping. The expanded facilities will make it possible to produce many apparatus parts formerly imported from the United States.

The new building, located on a 5-acre plot was designed by Weir, Cripps and Associates and built by Begg & Daigle Ltd. Officers of the Canadian firm are George E. Fox, president and director; Norman R. Horrocks, vice president—sales; and John G. Brown, treasurer and assistant secretary.

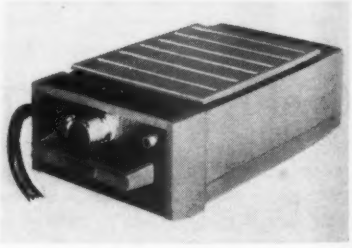
Boston Woven Hose Plans New Plant

The Boston Woven Hose & Rubber Division of American Biltrite Rubber Co., Inc., Boston 3, Mass., plans to build a new 200,000-square-foot plant in Hohenwald, Tenn. It will cost approximately $3,000,000.

Indian Fire Pumps With Fiberglass Tanks

D. B. Smith & Co., Utica 2, N. Y., announces that its Indian fire pumps are now offered with fiberglass tanks in addition to the galvanized and brass-tank models. The Indian Fiberglass No. 90 Fire Pump has a capacity of 5 gallons, is lighter in weight and will not rust or corrode. The manufacturer states that it has been tested to take rugged treatment. Full information on the new model is available from the company.

New Bendix Mobile Unit



Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Md., has developed a new mobile radio unit designated the 2V Series. It is designed for two channel operation with optional four-channel facility. Extensive use of transistors is made and the receiver is claimed to provide 0.4 uv sensitivity and 12 watts of audio output.

Fire Apparatus Rental Plan

National Equipment Rental, Ltd., P. O. Box 165, Floral Park, N. Y., has formed a fire equipment division for servicing fire departments, municipalities and industrial firms interested in leasing fire protection equipment.

Any type of appliance, apparatus or equipment can be leased for a period of

Continued on page 340

Again, no time even to gulp down a meal

Half-eaten meals, sleep cut short, dashing out into spine-chilling weather – all this is commonplace in the life of a fireman. Long hours, rigorous work.

That's one reason why we at Eureka Fire Hose do our best to make the fireman's task a bit easier. That's why we design Eureka Exclusive Multiple-Woven Fire Hose so that it weighs about one-third less than ordinary hose, yet is 50% stronger. It is the easy-handling hose.

- Eureka takes up one-third less space, permits more footage to be carried in the truck bed.
- Eureka dries more quickly – there is no space between jacket plies to collect dirt and water.
- Smooth interior ply assures maximum nozzle pressure.

Eureka is the easy-working hose for hard-working firemen. It lasts a long time, and is the most economical in the long run.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

1 Market Street • Passaic, New Jersey

Division of **United States Rubber**

FALSE ALARMS

Justice

Judge: "I think that you ought to give your husband a divorce."

Wife: "What? Why, that rascal made me miserable for 20 years and now you suggest that I should make him happy?"

Son: "How did you happen to marry papa?"

Mother: "Oh, I've always been an incurable bargain hunter, and when I realized that he was half-off, I accepted him."

A young girl was taking a swim in a secluded lake. Suddenly she noticed a young fireman on the bank, tying knots in her clothes. She swam to the bank, grabbed an old tub as a shield and advanced angrily on the young man.

"Young man," she snapped, "do you know what I'm thinking?"

"Sure," the fireman replied.

"You're thinking there's a bottom in that old washtub."

Judge: "Alcohol, and alcohol alone, is responsible for your miserable condition."

Old Timer: "Oh, thank you so mush, yer Honor. You are the firsh one who hasn't said it'sh all my fault."

Policeman: "I've had my eye on you for some time, Miss."

Girl: "Well, fancy that! And I thought you were arresting me for speeding."

Kinkchaser listened intently to a lecture given by the training chief on the properties of acids.

"Now," said the chief, "I'm going to drop this silver dollar into this glass of acid. Will it dissolve?"

"No, sir," replied Kinkchaser cockily.

"No?" said the instructor. "Then perhaps you will explain to the class why it won't dissolve."

"Because," came the confident answer, "everyone here knows if it would dissolve, you wouldn't drop it in."

Newsboy: "Extra! Extra! Read all about the two men swindled!"

Passer-by: "Here boy, I'll take one. Say, there's nothing in here about two men being swindled."

Newsboy: "Extra! Extra! Three men swindled!"

"Are you troubled with improper thoughts?" asked the examining psychiatrist of the fire fighter applicant.

"Not at all," was the reply. "In fact, I rather enjoy them!"

The Last Word

A husband and wife could not converse except in deaf-and-dumb sign language. One night the husband came home late, and the wife raged at him, her fingers flying at an extreme pace.

Just as the husband raised his hands to defend himself—the wife snapped off the light!

"Well speak up, Bub! What are they bellyachin' about this time?"

A young man attending a movie was amazed to find himself seated behind a young lady and a beautiful collie.

Even more amazing was that the dog laughed continually in the right places all through the comedy.

Finally, the young man could take this no longer. Leaning forward he told the young lady, "Excuse me, Miss, but I think it's simply astounding that your dog enjoys the movies so much."

"I'm surprised myself," she replied. "He hated the book."

"I'm going to have to divorce my wife!" said the husband. "She's a liar, and unfaithful, too."

"Why?" asked the friend.

"She said she spent the night with Margie, a girl friend."

Friend: "Well, how do you know she's lying?"

"Because I spent the night with Margie!"

Gallantry In Action

At a reception a young man was asked by a widow to guess her age. "You must have some idea," she said as he hesitated.

"I have several ideas," he admitted with a smile. "The only trouble is that I hesitate whether to make you 10 years younger on account of your looks, or 10 years older on account of your brains."

He: "Why is this grocery bill so high?"

She: "Go up stairs and stand sideways in front of a mirror."

The village Fair was all agog over its annual spelling bee. One by one the contestants dropped out until there were only two left, the town lawyer and the English stableman. Everyone waited breathlessly for the word which would decide the match.

"How do you spell 'auspice'?" was the question. The stableman lost.

The Old Timer met a "blind beggar" at a subway entrance. Having an inebriated compassion for the unfortunate man he pulled out a bottle and began filling the proffered tin cup.

The beggar peered from behind his dark glasses, saw the bottle and exclaimed, "Hey nix on that stuff! Do you think I wanta go blind?"

"Mummy," asked the child, "Why doesn't daddy have hair on his head?"

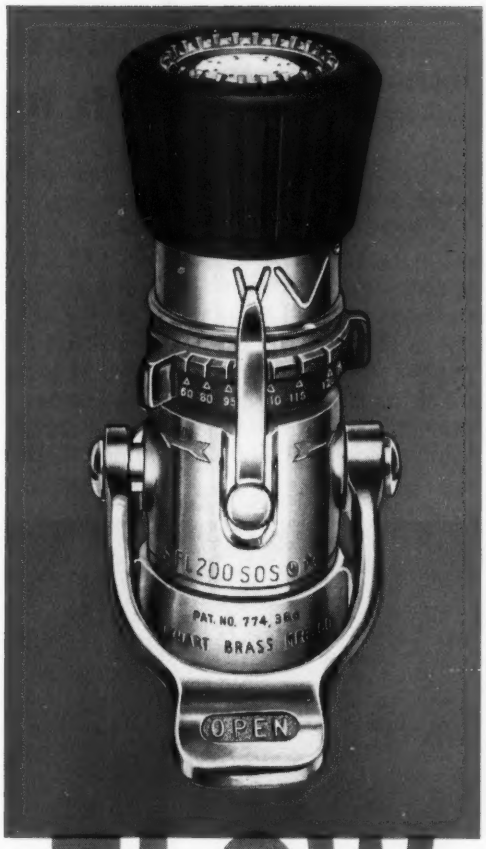
"Daddy thinks a great deal, dear."

The child mulled this over and then wanted to know,

"Mummy, why do you have so much hair on your head?"

"Shut up and eat your breakfast."

ELKHART'S NEW CONSTANT FLOW MYSTERY NOZZLE

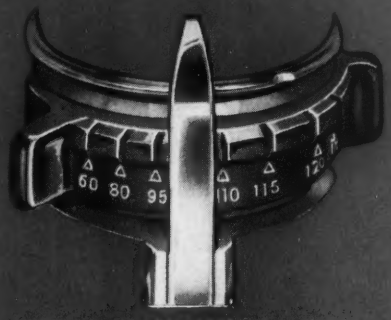


Select-O-FLOW—Elkhart's most important nozzle development since the first Mystery Nozzle in 1936. In one nozzle you get all of Elkhart's proven benefits plus a new variable gallonage feature that allows you to dial the selected gallonage from 60 to 125 G.P.M. at 100 p.s.i. without shutting down the line. Underwriters' approved, Select-O-FLOW also has stream indicators for choosing wide to narrow fog patterns and straight stream too.

Select-O-FLOW

- Maintain accurate stream characteristics at all gallonage positions.
- Metal waterway insures perfect stream even when subject to heat and abrasive material.
- Stainless steel stem eliminates possibility of corrosion and abrasion.
- New synthetic bumper and hand grip resistant to oil, heat and sunlight.
- Improved handle for easier operation. (Horseshoe type handle optional).
- Patented stem construction. Increases fog distribution.
- Shut-off features new bonded seat, makes it possible to adjust for wear without disassembling nozzle.
- Underwriters' approved.
- Non-clogging—no screen required.
- Optional base swivel or solid.

Variable Gallonage Dial



Merely turn dial indicator and select variable gallonage from 60 to 125 G.P.M. at 100 p.s.i. without shutting down the line.

ELKHART BRASS MFG. CO., INC., Elkhart, Indiana

More than half a century of fire fighting progress

Heavy Exposure Protection

with heat reflecting gear

When you're called to "hot" fires—flammable liquids, lumber yards, brush fires, any fire with large areas of complete involvement—you're fighting the heat first! Protected from radiant heat with "Scotch • Shield" Aluminized Fabric garments you can move in close to fight the fire—and you can stay in to control and kill it fast. You have unequalled protection against severe exposures because protective garments—hoods, coats, trousers, gloves or complete entry suits—made of "Scotch • Shield" Aluminized Fabric reflect 90% of radiant heat. This revolutionary fabric is flexible, lightweight, gives protection and freedom of movement never before available to firefighters. Learn more about this fabric used by hundreds of departments—see the opposite page.

SCOTCH·SHIELD
BRAND
ALUMINIZED FABRIC

the round table

discussion of current fire department and fire management problems

Handling Manpower Shortages

MANPOWER, and the lack of it, is a problem which is constantly in the thoughts of most fire chiefs. Due to the ever-increasing demands for greater community service by the public, and at the same time a national trend to shorter working hours for fire fighters, the dilemma is present at all times, whether during fire fighting, inspection or normal housekeeping duty.

The shortage of manpower is aggravated at certain times of the year, notably during winter months when cold weather seems to increase personnel illness. The same may be true during vacation periods.

The questions posed in an attempt to find out how representative fire chiefs react to the problem and the various methods which are used to overcome the manpower shortage, appear elsewhere on this page. The editors will welcome further comment from our readers. Address replies to Round Table Editor, FIRE ENGINEERING, 466 Lexington Avenue, New York 17, New York.

The Discussion

William L. Hilbish, Chief, Alameda, Calif.: When the issue of FIRE ENGINEERING carrying this discussion appears, I am going to be looking for a report from that very fortunate city which has no manpower problem to discuss—but I shall be very surprised to see it. It seems to be a problem we all have. Our department has been living with it so long that the men on the back end think the same thoughts as their chief officers when they are rolling into a burner that lights the sky: "Three-man crew on the 'first-in' company!" or "Thank God we have five men on the engine tonight!" It's the first order of business in my department every day of the year. At one or two minutes after 8 a.m., the assistant chief in charge of the on-duty platoon has a a name-rank-and-company report of the manpower in his hands.

He tackles that problem first and usually solves it and has his orders out in about five minutes flat. If you can imagine Solomon as a "bulb-snatcher," you can imagine the techniques he uses.

I don't know of any 100-man, two-platoon outfit on the Pacific Coast that has a city manager who is thinking in terms of the Underwriters' seven-man pumper crew for high-value districts. The city managers know the axiom as well as we do: ". . . enough men to make effective use of the apparatus." Only they come up with a different answer: Four men. To us that means one 2½-inch line and we had better make that one line effective.

So we do just exactly that. In more than two decades the Alameda Fire Department has not had to call for help (excepting for a fireboat which we do not have), although we have gone to the aid of two government installations in the city more than once.

Being realists, we know that no city can afford to keep enough firemen to fight its biggest potential conflagration. We know that our city would have to stretch mightily to reach the Underwriters' manpower standards and keep to them in the face of the diminishing work week for firemen. We lost nine fine young recruits last year to a department in a neighboring city because of the lure of higher pay and shorter hours, so we have to solve the problem of hanging onto our new men before we can think about increasing our manpower.

We also know that one well-trained company is as good as three ill-disciplined and poorly trained companies, and that size, taken alone, can be a highly over-rated factor in judging the amount of fire protection you have.

Our department personnel roster does

THIS MONTH'S QUESTIONS

Does your department personnel roster provide for extra men to be used to maintain company strength at a certain level under all foreseeable conditions? If so, what are your general company manpower levels?

In case of illness to individuals, are the temporarily vacant positions filled by extra men?

Are provisions made for filling temporarily vacant positions during vacations?

How are company officers substituted for during illness, injury or vacation periods?

In the event of serious manpower depletion by illness or injury, do department regulations require that normally off-duty personnel work extra time?

How much—what type of Reflective clothing does a department need?

Many airport departments have equipped their entire force with "Scotch·Shield" Fabric garments. However, two suits are providing basic "starter" protection for other departments. Approach and proximity jobs can be performed with reflective hoods, bunker coats and pants, and gloves—rescue jobs with complete "entry" suits.

What is

SCOTCH·SHIELD BRAND ALUMINIZED FABRIC

It's a fabric made of pure aluminum vapor-coated on lightweight rayon, asbestos, or glass cloth. Its bright aluminum finish reflects 90% of radiant heat. "Scotch·Shield" Fabric is extremely flexible and resists stress or tearing, won't peel or crack. Durability far exceeds other fabrics given equal heat exposure. It produces reflective-protective garments lighter than conventional bunker clothing—it eliminates the need for bulky insulation type gear. Return the coupon for literature describing "Scotch·Shield" Fabric and its uses in firefighting.

Try this heat test . . . within seconds the conventional bunker coat smoldered . . . "Scotch·Shield" Fabric garment protected for the duration of the 100 gallon spill fire!

Where can you buy

SCOTCH·SHIELD BRAND ALUMINIZED FABRIC

Garments made from "Scotch·Shield" Fabric are available through your regular fire equipment suppliers. Or you can secure the name of fabricators by checking the box in the coupon below.

Minnesota Mining and Manufacturing Company
Dept. RBX-40, St. Paul 6, Minn.

☐ Please send me additional information on "Scotch·Shield" Aluminized Fabric.

☐ Please send names of firms manufacturing "Scotch·Shield" Fabric garments.

Name_____

Title_____

Fire Dept. or Firm_____

Address_____

City_____ Zone____ State_____

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D IS FOR DEPENDABILITY

1500 Watt
No. 156M
R-80 Flood

No. 150
HIGH INTENSITY
FLOOD R-40,
200-300, or
500 Watt

CORD CAN'T PULL LOOSE
MORE LIGHT LESS WEIGHT HANDLES EASILY
DEPENDABLE IN ALL WEATHERS
LARGE BASE GIVES FIRM SUPPORT ON RUBBLE

There's more to the Portable Flood and Spotlight Story, Our Catalog P is yours for the asking ---- WRITE FOR IT !

CIRCLE-D-LIGHTS
NATALE MACHINE & TOOL CO. CARLSTADT, N. J.

provide, in a sense, for extra men to be used to maintain company strength: Swing officers and relief firemen who fill in for officers and men on their day off. But they are not, of course, extra men but regular men. They came with the 67.2 hour week. As for your phrase "under all foreseeable conditions," it reminded me of our long waterfront and immediately of Texas City and my answer is 'no,' we don't have any extra men.

With regard to absences due to illness, we run short, but we often detail men from one company to another, and sometimes transfer men from one platoon to the other to even things up.

Vacancies caused by vacations are planned for well in advance. When the department is fully manned, the problem is not acute. Most of our stations have two companies, and our officers on vacation or on sick leave are replaced by an acting officer from the promotion list under the supervision of a regular officer.

Our men are on call at all times, according to regulations, but it's more or less understood, I believe, that if we had a disaster situation where we needed the off-shift men, we wouldn't have to call them—they would come.

We have a formal, off-duty response schedule whereby a certain previously designated group of our off-shift men are expected to keep themselves available to receive a call and to respond immediately. If a man wishes to do so, he can always arrange for another fireman to stand by for him, providing he notifies headquarters of the change. But we don't expect our men to work for nothing, so we have a formal schedule of credits for time worked at off-shift fires which are good for time off—when they can be spared.

We are set up to provide four men per piece of apparatus, though we sometimes run a three-man company in the "boondocks" in order to keep five men on an uptown 1,250-gpm pumper. That situation obtains only when we have a full complement of men. Our statistics, therefore, show three men and a fraction on each apparatus.

We have a regular four-company, first-assignment schedule in order to get that fraction spook (statistically speaking) to a fire as a whole man.

Newton L. Wheeler, Chief, Miami, Fla.: We do provide extra men to cover for holidays, vacations, ill and injured leaves, as well as 14-day military leaves.

When figuring our personnel needs for budget purposes, we figure the number of men actually needed to man the apparatus and then figure how many we will need to cover for holidays, vacations, ill and injured leaves. For the past few years the number of men belonging to reserve units has increased; therefore, we included military leaves. We not only figure on extra privates but also officers.

We do not call temporary men in, but plan for sufficient personnel in our budget to cover for the various types of leaves.

We do have a provision that in the event of an emergency, due to a shortage in manpower, we can hold a man over for another tour of duty or call in an off-duty man and require him to work. This has not been necessary in recent years, however, due to the fact that we have sufficient manpower.

Ralph L. Gump, Chief, Fairmont, W. Va.: We do not have any extra men to fill any vacancies in our department. We are governed by West Virginia civil service laws, and under these laws, it is a difficult problem to work extra men without violating the law. It is a problem also to have any one qualified to work as a fireman without continuous training.

In case of illness we operate with the same number of men by working shorthanded, or if the illness amounts to several men being off, we double up from men off duty.

We have no provisions for filling vacant positions (officers) during vacations. Ours is a small department with 37 men and a chief. Our officers consist of the chief, two captains and eight lieutenants. If the chief is absent, captains on each platoon run their platoon. If captain is off, a lieutenant fills his position. This same system works for vacations, sickness, etc.

In the event of serious shortage of manpower, our members are expected to fill in to keep our department in operation. To date, this method has worked satisfactorily.

H. E. Simpson, Chief, Bureau of Fire, Portland, Ore.: We do not use extra men in our department. Company strength is maintained by using callmen from an off-duty shift, who are paid for overtime.

Engine companies run with four, five or six men per shift, depending on the district; ladder companies with five and six men per shift depending on the district.

Vacation relief is provided by callmen —officers for officers, fire fighters for fire fighters, who usually work on their own apparatus and their own company.

For illness there is no substitute, as funds are not budgeted for this purpose. Injury and vacation leaves are filled by callmen from comparable grade.

The law granting a platoon system is predicated on the right to call off-duty personnel whenever there is "great or unusual danger." On most occasions when this proviso has been invoked, overtime pay has been granted by ordinance.

John J. Killen, Chief, Baltimore, Md.: We do not provide for extra men to be used to maintain company strength at a certain level. Neither do we fill temporary vacant positions due to illness or vacation, with extra men.

Fire fighters serving as "acting" officers, substitute for company officers during illness, injury or vacation periods.

All personnel are technically on duty 24 hours per day, and department regulations require that off-duty personnel work extra time in the event of serious manpower depletion.

Roland G. Dumais, Chief, Lewiston, Maine: Our department personnel roster provides for extra men to be used to

maintain company strength at a certain level under all foreseeable conditions. We respond with three men per piece of apparatus.

In the event of illness, temporarily vacant positions are filled by extra men. Should the regular replacements not be enough, department substitutes (nonregular men) are called in to work.

This will be the first year we have filled temporarily vacant positions due to vacations.

In the event an officer is absent, the senior private of the company acts in the capacity of officer. Usually he is a man with 10 or more years of service.

Regulations provide emergency suspension of working shifts. The normal recall of personnel for extra duty has been limited to multiple alarms and adding of additional personnel to companies during severe snow storms. Yearly flu innoculations have reduced sickness incidence to a minimum.

Gordon C. Moore, Chief, Grand Forks, N. D.: No provisions are made to keep at a certain level.

We do not fill temporarily vacant positions. However, in the case of an illness that has extended beyond the sick leave accumulation of an individual, and where we know he will continue to be off duty for an undetermined length of time, we fill the position from the eligible roster or by provisional appointment.

We do not fill in during vacation periods.

During the absence of a company officer, the senior fireman of that respective company is notified that he is in charge of the company.

We do not have any written regulations dealing with a serious manpower shortage. However, we operate on the three-platoon system and there is always one platoon on stand-by status which will respond to emergency calls from the fire department. We do not request any off-duty personnel to work extra time unless a major fire develops.

The following reply is in answer to a previous question on conducting fire prevention inspection.

Howard L. Dey, Superintendent of Fire, New Orleans, La.: The director of the fire prevention division of the New Orleans Fire Department has the responsibility of fire prevention and fire prevention programs in the City of New Orleans. He is in complete command of all fire prevention personnel at all times, including arson investigation men, and a photographer who are on 24-hour call.

The home inspection program is under direct supervision of the district chiefs. All reports are forwarded to the fire prevention division.

All inspectors are uniformed personnel recruited from civil service eligible lists resulting from special examinations for inspectors.

All building plans must be passed on by the fire prevention director. This includes plans for new constructions and remodeling in accordance with the city fire prevention code.

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FIRE HOSE

a Complete line for Every Use

Write Dept. "D" for new catalog.

REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

CODAFLEX • AERO • CHAMPION • REPUBLIC 600 • DACRO-PRENE • TARGET • RELIEF • FLEXFOLD

Among the Buffs

By Paul C. Ditzel

DEPARTMENT OF: "They Don't Fight 'Em Today Like They Used To": Boston's Box 52 Association buffs are talking of the story they heard from George F. Weston, Jr., of the *Boston-Herald Traveler*. The anecdote concerns Major Melville who was chief of the Boston Fire Wards for many years in the days of the hand pumpers.

The Boston b'hoys celebrated the delivery of a new 12-man pumper in a manner somewhat unlike that of the present day when new rigs take their place in enginehouses. The more the firemen celebrated the new arrival, the more the whiskey flowed. Toasts were drunk to the rig, its builder, to Major Melville and to bigger and better fires. "When the festivities were at their height," reports Weston, "some joker raised the cry of 'fire!'

"The doughty smoke eaters staggered out, harnessed themselves to their proud new engine, and dashed off in the direction of a brilliant glow in the sky. Down States Street they galloped, knocking an occasional brick from the buildings on either side and out onto Long Wharf where the illumination seemed the brightest and where they decided to make their stand to fight the all-consuming enemy.

"Dropping their suction hose into the harbor, they bent their backs to the pumping. An hour of hard work in the cold sobered them sufficiently to realize that they had directed their efforts at the glow caused by the full moon rising through the harbor mists. Sadly they returned to quarters, dragging their pump behind them."

The story was among those told at the annual joint meeting of the Box 52 Association members with other Boston Fire Buff organizations: The Tapper Club, and the Boston Sparks Association. The annual affair was held in the John O'Rielly Hall on Dudley Street near the quarters of Ladder Company 4. The Tapper Club was host and provided a full evening's program.

From London comes word that this column's good friend, John L. Eades, editor of the *Fire Protection Review* has gone on to other projects in the Benn Group of publications. Replacing him is Christopher R. Elliott, who has been assistant editor of the magazine for the past 18 months.

As many of you know, Editor Eades made many new friends for the *Review* when he visited the United States last year. During the course of his tour of American fire departments he attended the annual conference of the International Association of Fire Chiefs at Grand Rapids.

We certainly wish Editor Elliott the best of luck in his new assignment. Since many American buffs find the *Review* of considerable interest, I might repeat the magazine's address and subscription rate: Bouverie House, Fleet Street, London, E.C. 4, England. The annual subscription rate of $4.25 includes a copy of the Year Book, a valuable addition to any buff's library.

During the past few weeks I was saddened to learn of the death of Battalion Chief William O. Britt, who headed the Buffalo, N. Y., Fire Department's Sixth Battalion since 1930. Chief Britt was well known to Buffalo buffs and I recall covering a great many fires he attended.

Chief Britt died of a heart attack a week before his scheduled retirement on February 1, following surgery. His death came several days after he was the subject of a feature article in the *Buffalo Evening News*, the same paper in which I chronicled many of his exploits when I was a fledgling police reporter. A fireman since 1911, he took a special interest in fire protection problems in Buffalo's industrial southside and fought nearly all major fires in that area during his career which started in the days of the horse-drawn apparatus.

Among the many stories told of Chief Britt's spectacular career was the one which occurred the wintry afternoon he set what is considered to be an unofficial record for sounding a second alarm. While the box was still tapping in for an alarm at the old City Ice and Fuel Company on Seneca Street, Chief Britt looked from the window of his station at Engine 25 across the street and pulled a deuce.

Alan V. Brunacini, a student of fire

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protection at Oklahoma State University's School of Fire Protection Technology, says he would like to obtain some prints or photos of any scenes of fire fighting, apparatus, or anything of this nature. Any buffs who have extra photos—hopefully suitable for framing—might send them to Buff Brunacini at the Campus Fire Station, Oklahoma State University, Stillwater, Okla.

That's the sizeup of things for this month. I'm always a good listening post for news of your buff clubs and anecdotes of you individual sparks. The address to send them is: 4234 Don Diablo Drive, Los Angeles 8, Calif. □□

Coming Events

April 27-30—Kansas State Firemen's Association. Annual meeting and regional fire school, Pittsburgh. Secretary, E. E. Mehl, 544 South Hillside Street, Wichita, Kans.

Apr. 27-30—Arizona State Firemen's Association. Annual meeting, Hermosillo, Sonora, Mexico. Secretary-Treasurer, Earl Hunt, P. O. Box 442, Safford, Ariz.

May 5-7—Florida State Firemen's Association. Annual meeting, St. Petersburg Beach. For information, write, Victor J. Higgins, chairman, St. Petersburg Beach Fire Department, 420 76th Avenue, St. Petersburg Beach, Fla.

May 9-11—Southwestern Association of Fire Chiefs. Annual meeting, Houston, Tex. Secretary-Treasurer, Chief T. L. Townley, Jr., P. O. Box 334, Odessa, Tex.

May 15—Southern Wisconsin & Northern Illinois Firemen's Association. Annual meeting, Prairie Du Sac and Sauk City, Wis. Secretary, Herman Pfund, New Glarus, Wis.

May 16-20—National Fire Protection Association. Annual meeting, Montreal, Que. General Manager, Percy M. Bugbee, 60 Batterymarch Street, Boston 10, Mass.

May 18-21—Industrial Mutual Aid and Disaster Control Conference, Netherland-Hilton Hotel, Cincinnati, Ohio. Special Air-Space Show at Wright-Patterson AFB, Dayton on May 21. For information, write the National Institute for Disaster Mobilization, Inc., 475 Fifth Avenue, New York 17, N. Y.

May 26-28—California Fire Chiefs Association. Annual meeting, Santa Monica, Calif. For information write Chief C. N. Carrell, Fire Headquarters, Santa Monica.

June 2-4—Eastern Association of Fire Chiefs. Annual meeting, Ocean City, N. J. Secretary, Chief Edwin J. Clark, Box 328, Wayne, Pa.

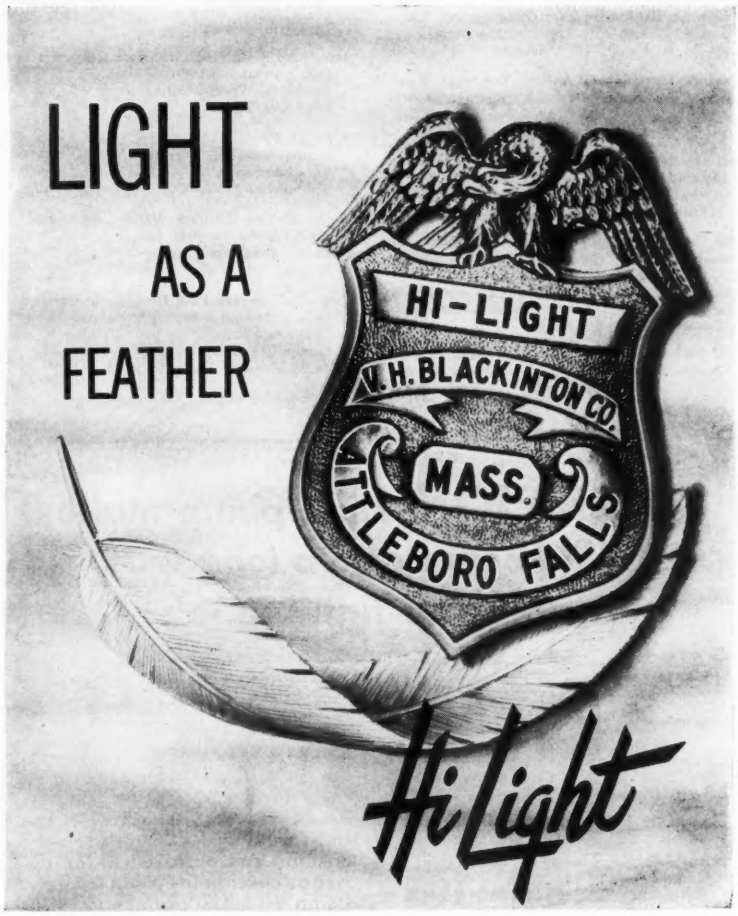
June 3-4—Indiana Volunteer Firemen's Association. Annual meeting, Clinton. Secretary, Harry Fries, Rural Route 3, Walkerton, Ind.

June 9-10—Southeastern Association of Fire Chiefs. Annual meeting, Jacksonville, Fla. Secretary-Treasurer, Chief C. W. Wyrick, Fire Headquarters, Greensboro, N. C.

June 9-11—Montana State Fire Chiefs Association. Annual meeting. Racetrack Volunteer Fire Department, Butte. Secretary, William S. Hayes, 208 Eklund Building, Great Falls.

June 10-11—Dauphin County Volunteer Fireman's Association. Annual meeting, Harrisburg, Pa. Sponsored by the Goodwill Fire Co. No. 7 and Reily Hose Co. No. 10. Secretary, D. Edgar Fox, 723 North 19th Street, Harrisburg, Pa.

June 14-16—State Firemen's and Fire Marshals' Association of Texas. Annual meeting, Galveston, Tex. Secretary, David Clabaugh, Carthage, Tex.



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June 15-18—Colorado State Firemen's Association. Annual meeting, Colorado Springs, Colo. Secretary, Arthur J. Becker, 2224 South Stuart Street, Denver 19, Colo.

June 16-18—Hudson Valley Volunteer Firemen's Association. Annual meeting, Monticello, New York. Secretary, Charles M. Fales, 92 Clove Avenue, Haverstraw, N. Y.

June 19-21—South Carolina State Firemen's Association. Annual meeting, Poinsette Hotel, Greenville, S. C. Secretary-Treasurer, David H. Gillam, Jr., Orangeburg, S. C.

June 19-22—Campus Safety Association. Annual meeting, Cornell University, Ithaca, N. Y. For information, write Daniel P. Webster, Staff Representative, Higher Education Section, National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill.

June 20-23—New England Association of Fire Chiefs. Annual meeting, Wentworth by the Sea, Portsmouth, N. H. Secretary-Treasurer, Chief Albert W. Kimball, 25 Leavitt Street, Hingham, Mass.

June 22-25—International Fire Buff Associates, Inc. Annual meeting, Chester, Pa. Secretary, Robert B. Wren, 3430 Saybrook Avenue, Cincinnati 8, Ohio.

June 23-25—Six County Firemen's Association. Annual meeting, festival and parade, Milton, Pa. Chairman, Owen C. Ranck, 112 Broadway, Milton, Pa.

June 27-29—Missouri Valley Association of Fire Chiefs. Annual meeting, Des Moines, Iowa. Secretary-Treasurer, Chief Paul A. Soener, Independence, Iowa.

July 4—Freeport Fire Department annual parade, firemanic show and fireworks, Municipal Stadium, Freeport, L. I., N. Y. For information, write Harry A. O'Rourke, Secretary, 47 Rutland Road, Freeport, N. Y.

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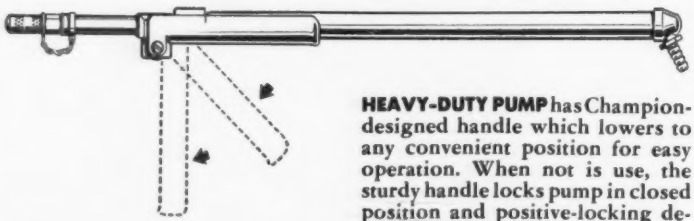

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Aug. 19-21—Connecticut State Firemen's Association. Annual convention and parade, New London, Conn. For information write the New London Firemen's Association, Convention Committee, Inc., P. O. Box 811, New London, Conn.

Aug. 25-27—Westchester County Volunteer Firemen's Association. Annual meeting, Ossining, N. Y. For information contact William Johnson, Co-Chairman, Box 334, Ossining, N. Y.

July 11-12—Michigan State Fire Chiefs Association. Saginaw, Mich. Secretary, Chief Edward F. Klecka, Jr., 1102 Ruddiman Avenue, North Muskegon, Mich.

Aug. 28-30—New York State Permanent Firemen's Association. Annual meeting, Tonawanda, N. Y. Secretary-Treasurer, Robert E. Mills, 420 Plymouth Drive, Syracuse 6, N. Y.

Aug. 28-Sept. 3—International Association of Fire Fighters. Annual meeting, Buffalo, N. Y. Secretary-Treasurer, John C. Kabachus, AFL-CIO Building, 815 Sixteenth Street, N. W., Washington 6, D. C.

Sept. 12-15—International Association of Fire Chiefs. Annual meeting, Hotel Manger Seneca, Rochester, N. Y. Secretary-Manager, B. Richter Townsend, 232 Madison Avenue, New York 16, N. Y.

September 15—Delaware Fire Chiefs Association. Semiannual meeting, Bridgeville, Dela. Secretary, Howell H. Barnes, Smyrna, Dela.

Sept. 16-17—Delaware Volunteer Firemen's Association. Annual meeting, Bridgeville, Dela. Secretary, E. Reynolds Bradley, Smyrna, Dela.

Sept. 18-21—Pacific Coast Inter-Mountain Association of Fire Chiefs. Annual meeting, Las Vegas, Nev. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Calif.

Sept. 19-22 — Canadian Association of Fire Chiefs. Annual meeting, Calgary, Alberta. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 19-22—International Municipal Signal Association. Annual meeting, New York, N. Y. Secretary, Irvin Shulsinger, 130 West 42nd Street, New York 36, N. Y.

Oct. 17-21—National Safety Congress. Annual meeting, Chicago, Ill. Further information may be obtained from R. L. Forney, secretary, National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill.

Nov. 3-5—International Rescue and First Aid Association. Annual meeting, Benjamin Franklin Hotel, Philadelphia, Pa. For further information, contact the Executive Office, 314 King Street, Alexandria, Va. □□

FIRE COLLEGES

Arizona State Fire School—Oct. 20-22, Phoenix, Ariz. For information write Chief Jake Siken, Supervisor of Training, Phoenix Fire Department.

Civil Defense Instructor Training Course for Eastern Area—May 2-6, June 13-17, June 20-24, June 27-July 1, **Basic Civil Defense for Instructors;** May 9-13, **Principles of Organization and Staffing;** May 9-13, May 16-20, May 23-27, June 6-10, June 13-17, June 20-24, **Radiological Monitoring for Instructors;** May 16-20, **Emergency Operations for Instructors;** June 6-10, **Rescue Operations for Instructors.** All sessions will be held at the Eastern Instructor Training Center, Office of Civil Defense Mobilization, Brooklyn 35, N. Y. For information contact the Center at the above address.

Colorado State Fire School—June 15-18, Colorado Springs, Colo. For further information write Arthur J. Becker, Secretary, Colorado State Firemen's Association, 2224 South Stuart Street, Denver 19, Colo.

Connecticut State Fire College—June 6-10; Field Day, June 11, New Haven Fire Department Training Ground. For information write Roy W. Adams, Director, Vocational Training Field Service, Connecticut State Department of Education, 490 Capitol Avenue, Hartford, Conn.

Delaware Volunteer Firemen's Fire School—May 7-8, May 14-15, Camden-Wyoming, Dela. Chairman Granville T. White, Laurel, Dela.

Florida State Fire College—Mar. 28-Apr. 1, **Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204, Fire Fighting Tactics.** Apr. 4-8, **Units 104,** Fire Streams; **107,** Arson Detection, **208,** Fire Department Administration. May 16-20, **Heating and Air Conditioning.** June 6-10, **Fire Pump Maintenance;** Aug. 8-12, **Seminar in Arson Investigation and Detection. 208,** Fire Department Administration. **May 16-20, Heating and Air Conditioning. June 6-10, Fire Pump Maintenance; Aug. 8-12, Seminar in Arson Investigation and Detection.** Sept. 5-9, **Units 101,** Tools, Forcible Entry, Breathing Apparatus, Extinguishers; **106,** Fire Inspection; **201,** Instructor Training. Sept. 12-16, **Units 102,** Hose and Ladders; **202,** Company Officer Training; **206,** Fire Prevention and Protection. Sept. 19-23, **Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics. Sept. 26-30, **Units 104,** Fire Streams; **107,** Arson Detection; **208,** Fire Department Administration. For information contact Florida State Fire College, P. O. Box 785, Ocala, Fla.

Illinois Fire College—June 13-16, University of Illinois Campus, Urbana, Ill. For information, write R. K. Newton, Director, Illinois Fire College, 725 South Wright Street, Champaign.

Indiana Fire Training Program—May 16-20, Basic Fire Course; May 24-25, Rescue Training Course; Sept. 14-17, Annual Indiana State Fire School; Oct. 25-27, Fire Inspectors Course. All courses will be held at Purdue University, Lafayette. For information, write Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Industrial Mutual Aid and Disaster Control Conference—May 18-21, Netherland-Hilton Hotel, Cincinnati, Ohio. Special Air-Space Show at Wright-Patterson AFB, Dayton on May 21. For information, write the National Institute for Disaster Mobilization, Inc., 475 Fifth Avenue, New York 17, N. Y.

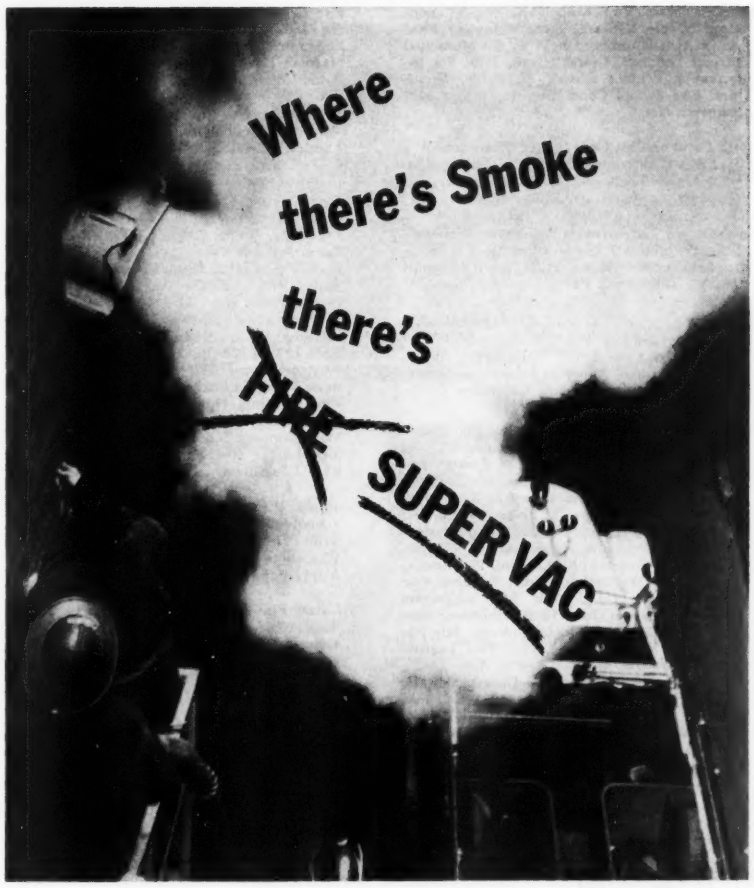
International Arson Investigators Seminar—Apr. 25-29, Purdue University, Lafayette, Ind. For information, write Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Kentucky Fire School—June 6-8, Annual Fire School. Both sessions will be held at the University of Kentucky, Lexington, Ky. For information, write J. L. Thompson, Chairman, Fire School Committee, 940 Starks Building, Louisville 2, Ky.

Maryland Fire Service Training Program—Pump School Series: Apr. 30-May 1, Barton American Pumps; May 14-15, American La France Pumps; May 21-22, Seagrave Pumps; June 4-5, Hale Pumps; June 11-12, Seagrave Pumps. Aug. 1-3, **Aerial Ladder Short Course.** Aug. 9-10, **Governor's Conference on Fire Prevention;** Sept. 6-9, **Short Course for Firemen.** All courses to be held at Fire Service Extension Building, University of Maryland. For information, write, Robert C. Byrus, Director, P. O. Box 85, College Park, Md.

Monroe County Fire School—Sept. 17-18, Coolbaugh Township, Tobyhanna, Pa. For information contact James H. Oakey, Driector, Box 67, Tobyhanna, Pa.

Morris County Fire School—May 3, Woodland Fire Headquarters, Morris Township; June 7, Long Hill Fire Co., Chatham Township; July 5, Norristown Fire Headquarters; Aug. 2, Whippany Fire Headquarters; Sept. 6, Budd Lake Fire Headquarters. For information, write Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.



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Nebraska State Fire School—May 1-3, sponsored by the Nebraska State Volunteer Firemen's Association, and held at the Municipal Airport Grounds, Grand Island, Neb. For information contact Russell D. Salak, Secretary, Fire School Committee, P. O. Box 312, Schuyler, Neb.

North Carolina Fire College and Pump School—May 9-13, Charlotte, N. C. For information, write Chief Charles L. Burkett, Fire Department Headquarters, Salisbury, N. C.

Northeastern Pennsylvania Volunteer Firemen's School—June 4-5, Seeleyville, Pa. For information contact James H. Oakey, Director, Box 67, Tobyhanna, Pa.

Ohio Fire School—May 7-8, Regional Fire School, Columbus (Clinton Township). For information, write Byrl R. Shoemaker, Supervisor, Trade and industrial Education Service, 220 South Parsons Avenue, Columbus.

Ontario Fire College—Apr. 27-29, Fire Chiefs Conference, to be held at University of Toronto; May 2-6—FMO Staff Conference; May 9-13—FMO Staff Instructors Training Course; May 23-27, Radiological Monitoring Course; May 30-June 3, Temiskaming District Fire Course; June 6-24, Administration Course for Senior Officers; June 13-17, Oxford County Regional Fire School, Woodstock; June 20-24, Wellington County Regional Fire School; July 11-15, Basic Fire Inspection Practices Course; July 18-22, Sudbury District Regional Fire School, Sudbury; July 25-29, Pump Course; Aug. 8-12, Fire Department Instructors Course, Part I; Aug. 15-26, Fire Department Instructors' Course, Part II; Aug. 9-Sept. 2, Volunteer Fire Officers Course, Part I; Sept. 12-16, Eastern Ontario District Fire Course; Sept. 19-23, Pump Course; Sept. 26-Oct. 7, Company Officers' Course; Oct. 17-21, Basic Fire Inspection Practices Course; Oct. 24-28, Mutual Fire Aid Forum—County Fire Coordinators. All courses will be held at the Ontario Fire College at Gravenhurst, Ont. For information, write W. J. Scott, Q.C., Fire Marshal, Province of Ontario, 210 Huron Street, Toronto 5.

Pennsylvania State Firemen's Training School—May 2-5, Basic Fire Fighting; May 16-20, Ladders, Rescue, Salvage; May 23-27, Advanced Fire Fighting; June 6-10, Fire Department Pump School; June 20-24, Basic Fire Fighting; June 27-July 1, Ladders, Rescue, Salvage; July 11-15, Advanced Fire Fighting; July 25-29, Fire Department Pump School; Aug. 1-5, Basic Fire Fighting; Aug. 15-19, 22nd Annual Pennsylvania State Fire School; Aug. 20, Instructors Conference; Aug. 22-26, Ladders, Rescue, Salvage; Aug. 29-Sept. 2, Advanced Fire Fighting; Sept. 12-16, Fire Department Pump School; Sept. 26-30, Basic Fire Fighting; Oct. 3-7, Advanced Fire Fighting; Oct. 17-21, Basic Fire Fighting; Oct. 31-Nov.4, Advanced Fire Fighting; Nov. 14-18, Fire Department Pump School. All courses to be held at the State Training School, Lewistown, Pa. For information contact Art Espey, Director, Box 631, Lewistown.

Southern Wisconsin and Northern Illinois Fire School—Sept. 18. For further information, write Herman Pfund, Secretary, Southern Wisconsin and Northern Illinois Firemen's Association, New Glarus, Wis.

Tri-State Fire School—Aug. 22-26, Fire School; Nov. 15-18, Instructors School for Company Officers, Huntington, West Va. For information, write R. M. Myers, Secretary-Treasurer, Tri-State Fire School Association, 816 Ninth Street, Huntington.

Williamsburg Fire College—June 20-24, College of William and Mary, Williamsburg, Va. Director, Chief Elliott W. Jayne, Fire Headquarters, Williamsburg.

New Haven To Hold Fire College-Field Day

A field day will highlight the Connecticut State Fire College week at the New Haven Fire Department training grounds June 6-11.

The fire college program of fire fighting, hose and ladder work, rescue methods, pump operation, breathing apparatus use, breaking and entering, ventilation and salvage will run from Monday through Friday. In addition to the classes in which men will learn by doing, there will be noontime demonstrations and lectures.

Among the guest lecturers will be Captain Martin C. McMahon, Baltimore Fire Department, who will demonstrate mouth-to-mouth breathing techniques and Joseph L. Risinger, consultant on flammable liquids handling and storage, who will demonstrate developments in his field. Heat-treated glass, which is expected to play an increasing role in the building industry, will be discussed and in addition the expanding role of heat-reflective clothing for firemen, and developments in sprinklers will be featured.

A feature of the field day, which will start at 9:30 a.m. Saturday, June 11, will be a display of a snorkel-type apparatus in action. Heat-reflective clothing and a vapor protection suit also will be tested during the day.

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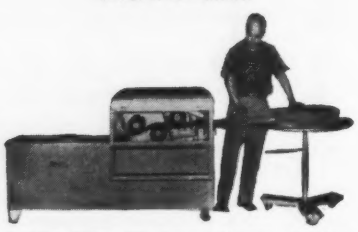

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stage pumps that have recently been put into production will be shown in action as well as the latest equipment for handling foam. Emulsifiers for flammable liquids, dry chemical extinguishing agents, and fire-retardant paints will also be demonstrated.

The field day will be under the direction of Chief Thomas J. Collins of the New Haven Fire Department. Fire college students will show what they have learned under the supervision of members of the Connecticut Fire Department Drillmasters Association.

A preliminary to the field day is scheduled for 7 p.m. Friday, June 10. Representatives of many cooperating manufacturers will be present to answer questions about their products. *—R. P. Sylvia*

PLANE CRASH

Continued from page 313

speaking throughout all but the last hour of the rescue operation. From time to time, an ambulance steward administered a sedative to ease his suffering. City Coroner Dr. Henry W. Turkel supervised medical treatment.

After about five hours, it appeared that the victim could be removed, and a basket stretcher was raised up the ladders on ropes to a spot where the injured man could be placed on it and lowered to the ground. It was then discovered that his crushed left foot was still wedged against the tree trunk. Since there was no longer any danger from gasoline fumes, Captain Jim Russell, Rescue Company 2, was ordered to put the acetylene cutting unit to work.

Meanwhile, the trapped man had lapsed into unconsciousness. He was freed at approximately 3:20 a.m. and placed in the basket stretcher. After examination, Doctor Turkel pronounced him dead of internal injuries and a broken back. The body of the other passenger in the plane was finally cut free shortly after 8 a.m. □□

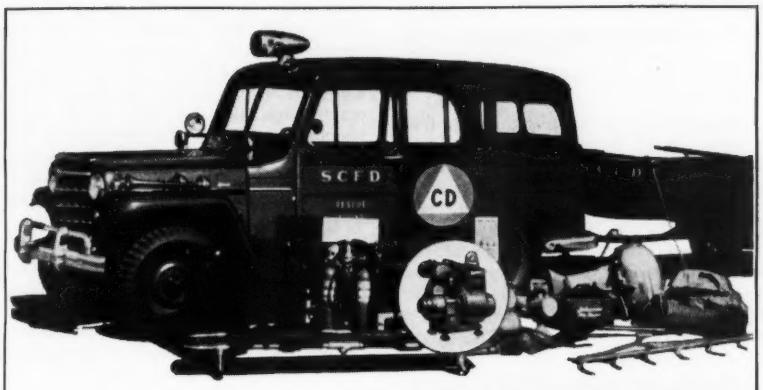
Los Angeles Orders $1 Million in Apparatus

What is believed to be the largest single order for fire apparatus in the western United States was recently placed when the Los Angeles City Fire Department authorized purchase of $1,040,084 worth of equipment.

The new equipment will consist of 26 triples and six 100-foot aerials. All are to be delivered within a year, mostly for the replacement of obsolete equipment.

Funds will come from the fire department bond issue approved last May. The same bond issue also provided for the construction of many new stations and replacement or relocation of old fire houses.

—Cliff Dektar



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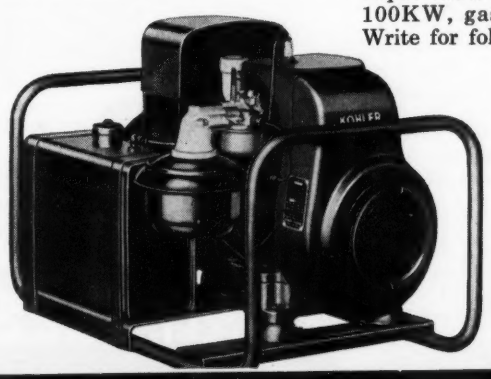

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Annual Reports

Iowa State University, Engineering Extension, Ames, Iowa—R. E. Patterson, Jr., associate director, reports that a total of 4,677 Iowa firemen were registered in firemanship training classes during the fiscal year, July 1, 1958 to June 30, 1959. These men averaged 10.8 hours of instruction. During the 35th Iowa State Fire School held in June 1959, 134 Iowa towns were represented, and nine other states.

Long Beach, Calif.—Chief Frank S. Sandeman reports a 24 per cent decrease in fire loss for the fiscal year, July 1, 1958 to June 30, 1959. Although 303 more fires occurred than in the previous year, losses dropped from $930,004 to $708,796, a decline of $221,208. Some of the factors responsible for the lessened fire losses, according to Chief Sandeman, are: Improved response, use of high-pressure fog streams and early discovery.

Los Angeles County, Calif.—Chief Engineer Keith E. Klinger reports that during the fiscal year ending June 30, 1959, population protected by the department increased 65,029 in the unincorporated area, or five per cent, and in the 18 incorporated cities protected by the department, a total of 25,315, or six per cent. The department has jurisdiction over 1,484,790 persons and 470,094 dwellings. The number of fire stations, engine companies, mountain patrol units and rescue units has roughly doubled since 1945.

Lima, Ohio—Chief Walter L. Hydaker reports that his department responded to 653 alarms in 1959 as compared to 596 in 1958. Total losses in 1959 were $234,550, an increase of $70,160. A new telephone communications system was completed in all five stations. It has a "lock in" feature which makes it impossible for a person calling in in an alarm to disconnect the identifying circuit until released. Calls can thus be traced in seconds and responded to even if the person has inadvertently hung up. It also is a great help in investigating false alarms.

Upper Darby Township, Pa.—Fire Marshal Paul W. Bates reports a per capita loss of $1.02 compared to $3.55 for 1958. Losses to buildings and contents totaled $87,073.86 in 1959; $302,017.65 in 1958. Three deaths were reported in 1958; none in 1959.

Oakland, Calif. — Chief James J. Sweeney, Jr., reports that, while fire losses for 1958-1959 were greater than for 1957-1958 when the lowest losses in 10 years were recorded, they are lower than the average for the past five years. In April 1959, the fourth campaign of dwelling inspections was launched. By July 1, more than 31,000 dwellings were inspected, bringing to approximately 215,000 the total number of home inspections since the program was initiated in 1950. In consequence of a bond issue approved by the voters last May, a reorganization plan provides for the construction of 12 new fire stations, the rehabilitation of others, and a methodical schedule for the retirement of obsolete apparatus during the next seven years.

Los Angeles, Calif.—Chief Engineer William L. Miller reports that, while the department responded to 36,667 alarms, 692 more than in the previous year, actual fires did not increase in proportion to the rising population, but rather decreased slightly. There were 14,022 fires in 1958-1959, compared to 14,868 the previous year. Two major projects of the year were the final preparation of a new fire code and the school fire tests. In reporting on Phase One of an expansion and improvement program made possible by a $14½-million bond issue approved last May, Chief Miller briefly described a self-propelled rescue ramp, designed to approach air crash fires and provide an escape ramp for those in the plane.

Melbourne, Australia — Chief Officer W. T. Aldridge, M.I. Fire E., J.P., reports a decrease in the number of alarms (15,766) with 3,477 false alarms. There

were 7,013 fires. Two permanently manned stations were built and commissioned during the fiscal year ending June 30, 1959.

British Columbia, Canada—Fire Marshal Basil Nixon reports 8,063 fires with losses of $12,702,394, a reduction of $1,832,234, and the lowest annual fire loss since 1955. There was also a 32 per cent reduction in lives lost, from 98 in 1957 to 67 in 1958.

New Orleans, La.—Superintendent of Fire Howard L. Dey reports that while the department responded to 252 more alarms in 1959 than in 1958, there were 82 less fires and total losses declined by $380,096. He recommends purchase of three 1,000-gpm Class "A" centrifugal pumpers and two 65-foot hydraulic-lift aerial ladder trucks with 600 gpm ladder pipes.

New South Wales, Australia—Chief Officer Pye reports 12,665 alarms in Sydney and its suburbs during 1958. This was a decrease of 4,518 compared with 1957. Included in the total were 2,475 fires in buildings; 18 ship fires; 50 chimney fires; 4,801 brush, grass and rubbish fires; 1,068 miscellaneous fires, and 4,253 false and unnecessary alarms. Chief Officer J. S. McGrath retired in January 1958, after 35 years of service. Mr. Pye, who has been serving as acting chief officer, was appointed chief officer.

Painesville, Ohio—Chief Eugene Tuthill reports that fire losses for the city of Painesville totaled $46,270.42. Painesville township losses were $49,029.17. Fire loss per capita for the city was $2.57, less than one-quarter of 1958's figure. Chief Tuthill again recommends the adoption of a fire code and the replacement of a 750-gpm pumper. He also urges the inauguration of a rescue squad at an estimated cost of $6,000.

Hayward, Calif.—Chief Matthew Jiminez reports that a billboard campaign, which originated in Hayward to stimulate public interest in home inspections, is spreading to other California communities. He points out that, most deficiencies found by engineers of the National Board of Fire Underwriters in a recent survey coincide with a recommended Fire Defenses Improvement Program submitted to the voters in a recently defeated bond proposal.

Atlantic City, N. J.—Chief Zenus Mathis reports 806 fires, an increase of almost 25 per cent over 1958, and total fire losses of $969,655.71, an increase of more than 50 per cent over 1958.

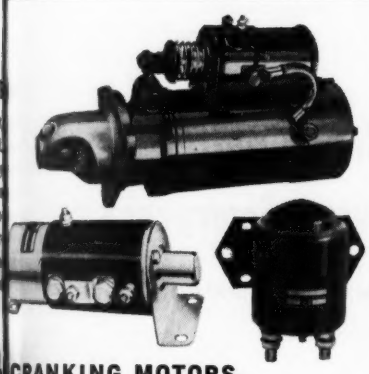
Hamilton, Ohio—Chief George Schlotterbeck reports 603 fires and a total loss of $70,490, the second smallest for the past 11 years. He recommends an additional station on the West Side, another company to be quartered at fire station No. 1 and the purchase of an aerial ladder truck.

West Milwaukee, Wis.—Chief John Pavlik reports a total fire loss of $29,124.28, a decrease of 18.2 per cent from 1958. The department, for its Fire Prevention Week program, was awarded first place in the state, second place in its population class and 12th place nationwide by the NFPA. The department also received an award from the International Association of Fire Chiefs for successfully carrying out the home fire inspection program.

Everett, Wash.—Chief Earl Brower reports 686 alarms, 182 building fires and total losses of $71,102.04. Of 24 resuscitator cases handled by the department, 22 were successful.

Morgantown, W. Va.—Chief George E. Sweitzer, Jr., reports 150 fire calls and total fire losses of $42,541. Based on 30,000 population, this represents a per capita loss of $1.42.

Baltimore County, Md.—Chief W. H. Wineholt, who assumed command upon the retirement of Chief A. P. Orban on May 30, 1959, reports total fire losses of $1,596,412, an increase of $739,647 over 1958. Chief Wineholt also reports the establishment of a central records system and the inauguration of in-service apparatus inspection. □□



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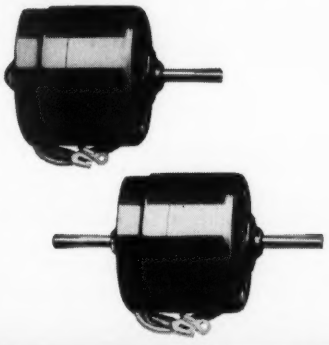

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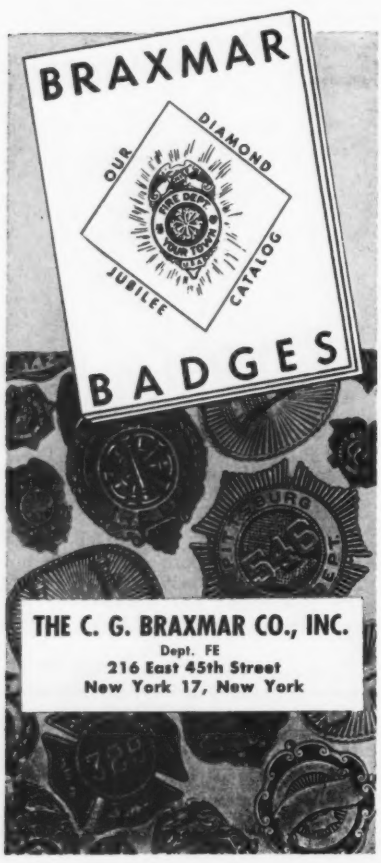

Six wreckers were needed to right LPG tank. Boom cables of wrecker in right foreground snapped and boom collapsed on its rest. Firemen wet down tank during lifting operations to prevent sparks

—McKewen Studio photo

Gas Trailer Accident Creates Washington Freeway Emergency

By DEPUTY CHIEF THOMAS W. KIRKWOOD
Lakewood Fire Department

AS A PROPANE gas trailer traveled down the slight grade of a 360-degree access road to the U. S. Highway 99 Freeway, south of Tacoma, Wash., the fifth wheel assembly, which was welded to the trailer, broke loose. Running free from the tractor, the trailer's dolly wheels struck a traffic island, causing the trailer to roll over three-quarters of a turn at 9:43 a.m., December 5, 1959.

Although the tank and trailer were considerably damaged, the tank did not rupture. A passing motorist notified the Washington State Patrol, which in turn notified the Lakewood Fire Department. Chief Bruce White dispatched men and equipment.

When the Lakewood department arrived on the scene, the state police were routing traffic onto the former Highway 99. The area was clear of persons and motor vehicles, and three small wreckers had been called.

The tank was loaded to 85 per cent capacity with 8,000 gallons of LPG. First thought of the fire fighters was to transfer the LPG to another tanker. However, this was not feasible as the only outlets were on the bottom of the tank and the trailer was not upright. The front end was much lower than the rear where the outlets are located. It was evident that the trailer would have to be righted before any appreciable amount of LPG could be transferred. The Washington State Patrol therefore put out a call for two larger wreckers.

All five wreckers, however, proved unequal to the job. Their operators insisted, nevertheless, that they could do the job if given enough time. Since the wreckers were not all from the same company, there was considerable confusion as each operator had his own idea of how the job should be done.

After three hours of fruitless efforts and equipment failures, a sixth wrecker was put to work. With the three big wreckers lifting and the three smaller ones holding to prevent the trailer from rolling over too far, the trailer was set on its wheels. The front end was then blocked up in a level position. It was approximately 2:30 p.m. when this was accomplished after four hours and 45 minutes of work.

During the efforts to right the trailer, the cables holding the boom of one of the larger wreckers broke, and the boom fell onto its rest. Had the boom been at an angle to its rest, it would have struck the tank when the cables failed and the situation could have been made worse.

The fire fighters checked the rigging each time it was set to make sure the operators were not putting pressure or strain on the tanker's piping. The fire fighters feared the cables or chains might damage the piping, and

the operators were just as sure they would not. The fire fighters won these discussions. Facing the task of transferring the LPG after the tank was righted, they insisted that all vapor and liquid lines must remain undamaged. After each attempt to raise the trailer, they inspected the tank for leaks.

All during the lifting operations, four 1½-inch and two 1-inch water fog lines were operated. The fog was directed toward the surfaces in contact with the pavement to minimize the possibility of sparks. No hydrants were available for 2,500 feet, and it would have been necessary to lay the lines across the detour route to use these. A trailer was finally obtained at 3 p.m. It required two hours to transfer the LPG to this vehicle. □□

California Communities Enact Mutual Aid Pact

Fire Chief William Elder of the Vista, Calif., Fire Department announces San Diego County's first mutual fire fighting aid pact has been drawn up.

Chief Elder said the mutual aid setup was the result of a campaign by the Northern San Diego County Fire Chiefs Association.

The plan provides for fire companies to give emergency assistance to each other and to provide help, where possible, outside of districts. Chief Elder said the proposal has been agreed to by these communities in addition to his own: Encinitas, Fallbrook, San Marcos, Escondido, Carlsbad, Ramona, Solana Beach, and Oceanside.

In addition, the eight California Division of Forestry units and companies at the Marine Corps base at Camp Pendleton and the Naval Ammunition Depot at Fallbrook have pledged their cooperation.

Paul C. Ditzel

Mark 50th Anniversary Of Spring Clean-up

This month marks the 50th anniversary of the spring clean-up campaign. Miss Bertha M. Chapman, a retired Cleveland teacher, now 85, is credited with starting the movement.

According to Miss Chapman, the Miles Park School where she taught for 40 years was similar to the Lakeview School in Collinwood, Ohio, which burned on March 4, 1908, with the loss of 175.

"We teachers in the lower grades were pretty frightened, almost panicked," she recalls. "Our vestibules were changed around and we teachers cleaned that school out to make certain we would have no such fire. That was in 1909. It might have been the same year that we encouraged the children to do the same in their homes. We even made signs and paraded around the school neighborhood with children to tell the people to clean up," Miss Chapman declared.

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From coast to coast, Greenberg fire protection equipment is meeting the rigid requirements of modern fire fighting methods.

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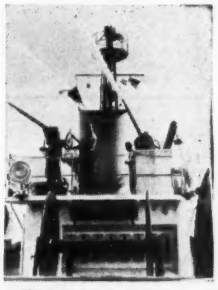
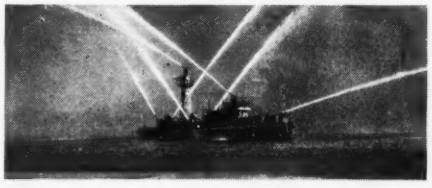
Remote (or manual control) New Yorker Universal Monitor Nozzle

John D. McKean, New York City Fire Boat





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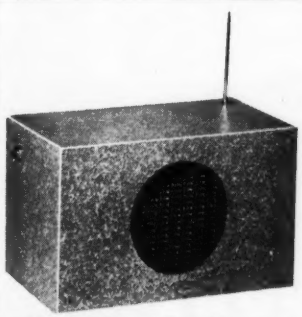

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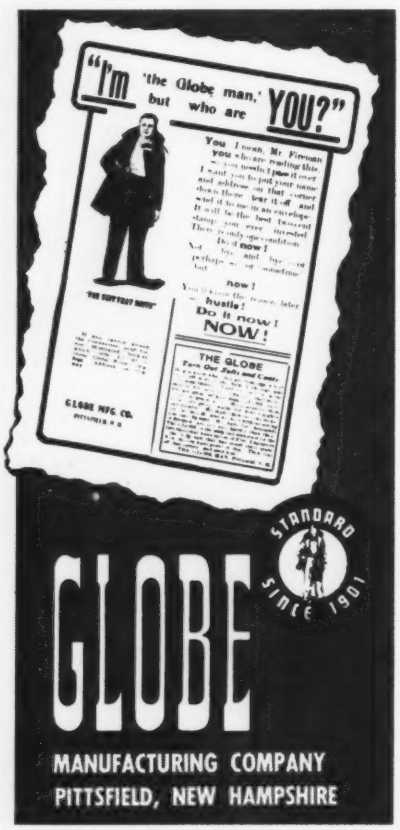


Persons in the News

Hamilton to Succeed Klinck at Memphis

Chief John C. Klinck, head of the Memphis, Tenn., Fire Department since 1950, is presently on terminal leave and will retire June 3 after 30 years service. The son of the late Chief Irby M. Klinck, he is widely known in national fire circles, having served as co-chairman of the annual Fire Department Instructors Conference since becoming chief, as well as being an active member of the International Association of Fire Chiefs.

Retiring Chief John C. Klinck

Photo by Jaffe

Chief Edward A. Hamilton

Chief Klinck was appointed to the department in June 1930 and assigned to the fire marshal division. In 1935 he was transferred to the personnel division and in 1940 was promoted to lieutenant. He was named captain in 1941 and became district chief in charge of personnel in 1943. He was appointed deputy chief, fire fighting division, in 1948 and on June 3, 1950, became chief of department succeeding retired Chief Connie Sullivan.

Chief Edward A. Hamilton, a veteran

of 25 years service, was appointed acting chief January 15 by Commissioner Claude A. Armour and will become chief of department effective June 3. He was appointed a fire fighter in August 1935 and promoted to driver in 1938. He was named lieutenant, fire fighting division, in 1940, captain in 1944, battalion chief in 1950, and promoted to deputy chief, fire fighting division in October 1958. Chief Hamilton served as co-chairman of the recently concluded Fire Department Instructors Conference which was held in Memphis for the 26th year.

MacDowell Is New Chief Of Camden, N. J.

Edward R. MacDowell, acting chief engineer of the Camden, N. J., Fire Department since the retirement of Chief William Van Pfefferle last October, was recently appointed chief by Mayor Alfred R. Pierce, director of public safety. Chief MacDowell has been a member of the department for 33 years and an officer for 20 years. He was made a junior captain in 1939 and captain in 1943, battalion chief in April 1959, and deputy chief in December of that year.

Omaha Honors Major Morton

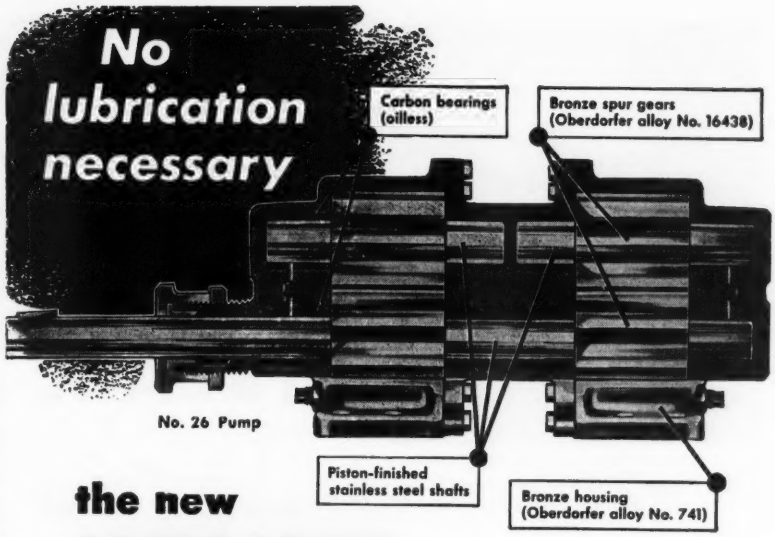
Chief Eugene W. Fields of Omaha, Nebr., presents a gold fire badge to Major Norris T. Morton, staff chaplain of the 801st Air Division, Lockbourne Air Force Base, Ohio. At the same time

—Photo by Dan Mulcahey, Omaha F.D.

Major Morton was given a citation naming him honorary chaplain of the Omaha Fire Department and expressing the department's respect and admiration for him. "Our members have learned to look upon him as a brother fireman and have grown to value his spiritual counselling," the scroll declared.

Yonkers Honors Chaplain

The Yonkers, N. Y., Fire Department honored the Rev. Christopher G. Kane, Catholic chaplain of the department, at a testimonial dinner on February 13. A native of New York City, Father Kane was ordained by Cardinal Spellman in 1950 and assigned to the Church of the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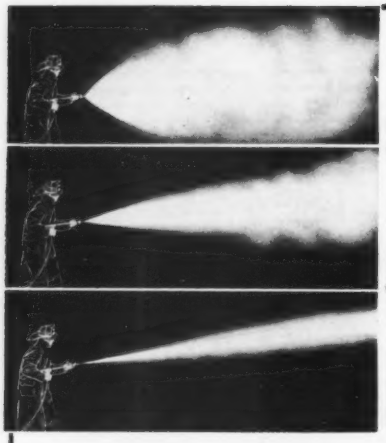

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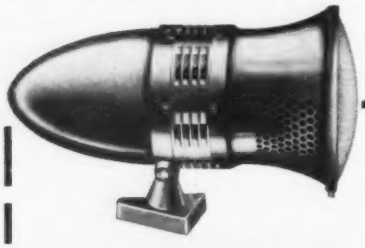

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Immaculate Conception, Yonkers. He was sworn in as chaplain in April 1955.

The testimonial was intended as an expression of the "true measure of appreciation for the five years of his untiring service to the members of the fire department as their chaplain and spiritual advisor."

The first Catholic chaplain of the Yonkers Fire Department, the most Rev. Joseph F. Flannelly, presently Auxiliary Bishop of New York, was present. Others who attended were: New York State Lieutenant Governor Malcolm Wilson, City Manager Charles L. Curran, Mayor Kristen Kristensen, Fire Chief Andrew J. Gerlock, Retired Chief William C. Garvin, the Protestant and Jewish chaplains of the department, and members of the State Senate, Assembly and judiciary.

Eckert Appointed to Illinois U. Staff

Willford John Eckert has been appointed extension specialist in firemanship training at the University of Illinois. Eckert has been a member of the O'Fallon,

Ill., Fire Department for 15 years and chief for the past three. He also has been a part-time spot instructor of evening firemanship classes conducted on local or regional bases by the university throughout the state.

Wilkes-Barre Boasts Fire Belle

Mrs. Ethel A. Price, seated at extreme right, was recently designated director of the Wilkes-Barre, Pa., Public Safety Department. As such, she rates the rank of fire commissioner and directs the ac-

—Photo by Paul Bieley

tivities of the city's all-paid fire bureau of 125 officers and men.

Shown with Mrs. Price are (seated): Mrs. Ruth Leonard, her secretary, and Fire Chief Ambrose Saricks, who has headed the department for 30 years. Standing, from left to right, are: Deputy Chief Edward Jacobson, Deputy Chief Jacob Lauer and Public Works Director William D. Jones, who formerly served as fire commissioner.

S. C. Wintermute

Dwyer Heads Indiana Instructors Association

Herbert L. Dwyer, fire instructor, Indianapolis Fire Department Training School, was elected president of the Indiana Certified Fire Instructors Association during the recent annual instructors institute at Purdue University. He succeeds Ralph Ellenwood, instructor for the Fort Wayne Fire Department. This association was established two years ago for the purpose of upgrading instruction in fire departments. About 30 members attended the training course which was held January 11-15. □□

Left to right are: First Vice President Richard Templin, Muncie; President Dwyer; Treasurer Peter Kuipers, Lafayette; Past President Ellenwood, Fort Wayne; and Second Vice President Carl Lederer, South Bend

L. A. County Tests "Eye-Catching" Color

A new, light-absorbent, reddish-orange paint used heretofore only on aircraft, was recently applied to a battalion chief's car of the Los Angeles County Fire Department to see if the car would "stand out" in traffic, especially at dusk when the accident rate is highest.

County Fire Chief Keith Klinger suggested the experiment after noticing how eye-catching the color is on the department's helicopter. His decision was also sparked by the many "fire-engine red" private cars and trucks on the highways.

The vehicle is in service in East Los Angeles, one of the most congested areas of the county from the standpoint of traffic. The test will take about a year, Klinger said. If there is a noticeable difference, all of the department vehicles will be painted with the new paint.

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1000'
2½" Fog Nozzle or Foam Applicator PLUS 1 AIR-AID Oxy Kit

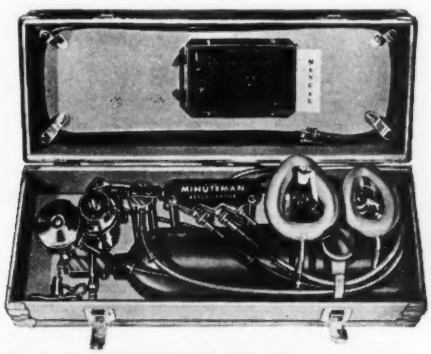
NOTE: Substitutions and Combinations of FREE equipment of Equal Value, such as coats, boots, Indian Tanks, lights, sirens etc., can be made up on all orders. Special EXTRA BONUS FREE equipment on all orders over 1000 ft., or orders combining 1½" and 2½" hose. Extra equipment may also be purchased separately at big discount savings.

"We discount QUANTITY not QUALITY and we VALUE our Customers"

CLARK ASSOCIATES Box 43, 180 Central Park South New York 19, N. Y.

The STEPHENSON MINUTEMAN

saves minutes that save lives



Here's the MINUTEMAN RESUSCITATOR in a nutshell:

SMALL 24½" x 8¾" x 7¾".
LIGHT under 30 lbs. with tank.
VERSATILE resuscitator, inhalator and aspirator, all in one instrument. With extra Midget attachment, the MINUTEMAN will resuscitate 2 patients and aspirate a third simultaneously.
ECONOMICAL operates 40 minutes with D cylinder.
WIDE RANGE pressures adjustable from Adult to Infant, with manual override when needed. Easily regulated to mixtures from 100% oxygen to 50% oxygen and 50% nitrogen from the air.

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Represented in Canada by Wilson & Cousins, Toronto

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☐ Please send Minuteman Folder L-25
☐ Please send free bulletin "Breath of Life"
☐ Please arrange for demonstration

NAME _____
TITLE _____
STREET _____
CITY _____ STATE _____

HOT WIRES!
PORTER
HKP
FIREMAN'S CUTTER
– FINDS THEM FAST!
– CUTS THEM CLEAN!

• Search hook "feels" through smoke, darkness — guides wire to cutter jaw.

• Swift, sure cuts on wires up to ⅝" solid copper wire.

• SAFE — Every cutter factory-tested to 20,000 volts. High-dielectric handle insulation, same as specified by electric utilities, resists aging, chemicals — stays "new-tool" safe.

• DESIGNED FOR FIREFIGHTERS
Original apparatus equipment—standard for municipal, industrial use.

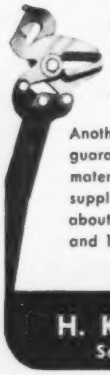
When seconds count . . .
590 HD PORTER
FORCIBLE ENTRY
CUTTER

• Cuts padlocks, bars, grilles.

• Rugged, heavy-duty construction.

• Hard-tempered, round-edge jaws for cutting up to ⅝" Hard Metals.

Specify PORTER'S
390 LK LINKMASTER
for fast, easy
TIRE-CHAIN REPAIR



Handles all truck, car sizes up to 13/32". No bench needed. Just spread broken chain on floor — open and close links in seconds.

Another Porter "High-Leverage" tool—guaranteed against workmanship or material defect. See your equipment supplier, or write for catalog. Ask about our Hydraulic Rescue Kits — 4 and 10 ton capacity.

HKP
H. K. PORTER, INC.
Somerville 43, Mass.

MANUFACTURERS' NEWS

Continued from page 318

from one to five years and it is said the lessee has complete freedom of choice in specifications, make and type of equipment. The company can gear its open-end leasing arrangement into an expansion or modernization program, to enable an organization to obtain needed equipment on an organized, budgeted basis without a large cash outlay or involved appropriation or budgetry procedures. The agreement can provide for title to pass at expiration, or the lessee may purchase the equipment at any time with a percentage of the lease payments credited toward the purchase price.

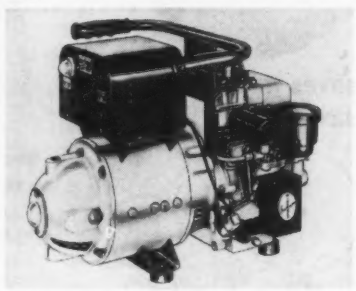
Motorola Establishes New Eastern Headquarters

Motorola Communications & Electronics, Inc., has established eastern headquarters for public safety and industrial communications products at Fair Lawn, N. J. Sales and service of two-way mobile radio, microwave, closed-circuit television and other communications systems are administered from the new facilities situated in a modern industrial park.

Approximately 18,000 square feet of space is available in the modern structure for housing administrative personnel, service managers and service facilities, an extensive parts depot, and a systems engineering department.

The new center, located in the hub of metropolitan New York City, serves 15 eastern states and the District of Columbia. Previously eastern headquarters were at Ridgefield, N. J.

New Winpower Engine-Generators



Three new portable gasoline electric plants have been introduced by Winpower Manufacturing Company, Newton, Iowa. Each unit features an automatic idling control which is said permits the plants to idle until a load of 100 watts or more is applied, at which time it reves up to operating speed and voltage. When the load on the plant is removed, it once again drops back to an idling speed. All units are powered by 4-cycle air-cooled Briggs & Stratton engines and are available in 1,500, 2,500 and 3,500-watt capacities at 115 volts a.c. and 115/230 volts a.c.

Blacon Fire Hose Washer

An automatic self-feeding fire hose washer has been announced by Blacon of Canada Ltd., 6911 Bloomfield Avenue, Montreal, Que. The unit is designed to thoroughly wash all types and sizes of hose up to and including 3 inches. It is claimed the hose washer is immediately ready for use on connection to a hydrant, pump or standpipe and operates efficiently under normal water pressure.

The hose is suspended by two conical water curtains and the action of the water causes the hose to slide through of its own accord. It is said this double-washes the hose, removing grit and grime from the jacket. The unit weighs 18 pounds and is made of aluminum alloy. It is portable and can also be mounted for permanent installation.

Appointments and Promotions

Thane MacInnes of Yonkers, N. Y., has been appointed distributor for all portable model E & J resuscitators in upper New Jersey, New York and the New England states. He was formerly sales director and distributor for the E & J Manufacturing Company in the same territory.

The business will be conducted under the name E & J Resuscitator Sales and Service at 9 Prospect Avenue West, Mount Vernon, N. Y.

National Foam System, Inc., manufacturer of fire fighting foam liquids and foam devices, recently announced the appointment of **Vandenpeereboom, S.A.**, as its direct distributor in Mexico. Located in Mexico City at Gonzalez de Cosio No. 19, Colonia del Valle, the Vandenpeereboom firm has had long experience in fire fighting materials and techniques.

Onan Eastern Corp., 21-34 Broadway, Long Island City 6, N. Y., will be exclusive distributors for D. W. Onan & Sons Inc., in the New York City trading area, northern counties of New Jersey and the state of Connecticut.

Onan Eastern Corp., an independently owned and operated corporation, is headed by: Ralph Siegel, president; Martin Taylor, vice president and sales man-

ager; and **Leonard Freeman**, assistant secretary and sales engineer. All were previously associated with John Reiner & Co., Long Island City, exclusive Onan distributor for the area since 1945.

Arthur J. Laack has been named director of merchandising, FWD Corporation, Clintonville, Wis. He has been manager of the advertising and sales

promotion division of FWD since 1955. In his new position, he will continue as advertising director and, in addition, will coordinate, merchandise and implement all FWD product promotions.

Edward V. Melsha has been elected president of The Hardie Manufacturing Company, Inc., Wilkes-Barre, Pa., manufacturers of high-pressure pumps. He was placed in charge of Hardie operations in Hudson, Mich., when the company was acquired by Universal American Corporation of New York City in 1957.

Bostwick Firematic Associates, 39-13 47th Avenue, Long Island City, N. Y., has formed a radiological division, a hospital training division and a respiratory protection division.

Retired Lieutenant Andrew A. Keil, A.S.S.E., formerly in command of the Radiological Unit of the New York Fire Department, will head the radiological division, which will provide decontamination, specialized training of safety personnel and consultation.

Retired Captain William H. Ruhe, formerly of the New York Fire College Staff, will be in charge of the hospital training division, which will furnish instruction in evacuation, carries, fire brigade training and related subjects.

Marvin Gunter has been appointed district manager of microwave and industrial product sales for Motorola Communications & Electronics, Inc., in New Mexico, Oklahoma, Texas, Arkansas, Louisiana, Tennessee, Mississippi, Alabama, Georgia and Florida. His new office will be in Dallas, Tex.

Donald Diehl has joined the Industrial and Marine Division, Walter Kidde & Company, Inc., Belleville, N. J., as senior project engineer. He formerly was director of the research and development center and chief electrical engineer with the Fyr-Fyter Company, and previously had acted as sales engineer and assistant chief engineer with the C-O-Two Fire Equipment Company.

R. A. D'Amour has been named assistant sales manager for Waukesha Motor Company, Waukesha, Wis. He joined Waukesha in 1952 and has served for the past seven years as sales engineer in the Midwest.

Malcolm Fischer has been named manager of the new UL Safety Products Department, Overly Manufacturing Company, Greensburg, Pa. Fischer joined Overly in 1953 as assistant sales manager. He was promoted to sales manager, door and frame division, in 1956.

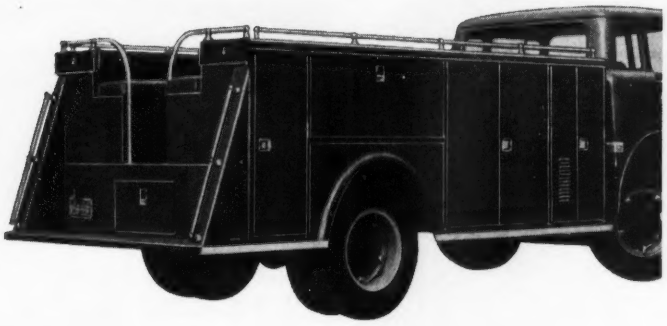
Publications Available

Kohler Co., Kohler, Wis., has published an eight-page booklet announcing the new Kohler Trio, a series of 2,000, 5,000 and 7,500-watt diesel-engine-powered electric plants.

The Manufacturing Chemists' Association, Inc., 1825 Connecticut Avenue, N. W., Washington 9, D. C., has issued a four-page leaflet "Health Factors in Safe Handling of Chemicals," Safety Guide SG-1. It is designed to help the nonchemist become familiar with toxicologi-

More for your Money...in MORYSVILLE

L-209 FIRE-CRASH TRUCK



- 5" Channel Steel Understructure
- 14 Gauge Metal Throughout
- Double Rear Seats
- Water Supply Tank
- Diamond Plate Decks
- Chrome Plated Railings
- Double Panel Doors With Full-Length Rod Type Hinges
- Available in Any CA (Shown 108" CA)

MORYSVILLE Body Works INC.

813 SOUTH READING AVE., BOYERTOWN, PENNA.
DISTRIBUTORS IN PRINCIPAL CITIES

Also a complete line of compact and versatile Fire, Fire-Crash, Rescue and Emergency Units and Special Built Fire Bodies. Finest materials and workmanship, extra-rugged construction and original modern design. Compartments arranged for handy stowage of fire fighting, first aid and life saving equipment, helmets, rain gear, tools, tanks, portable pumps and generators, etc.

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APPARATUS YOU WANT NOW!

● The National Rental Pay-as-you-go Plan makes it possible for any well organized fire company or fire district, village or city to have and use exactly the type of apparatus and equipment necessary. No red tape—no bond issues—no tax raise—no fund drive on top of fund drive. If your company or department can make small regular payments, you can have all the apparatus you need through National Equipment's one to five year leasing plan. At the end of five years, the apparatus can be purchased outright or a new lease will provide a completely new truck based on even lower rental than the first. Inquire on your company letterhead or phone for prompt helpful information.

National Equipment Rental, Ltd.

Floral Park, L. I., N. Y. Fieldstone 7-5100

The finest coat on the Market!

JANESVILLE TURN-OUT COAT OFFERS DOUBLE PROTECTION

Protection against searing heat and freezing rain with a detachable wool or flannel lining. May be quickly changed to fit working conditions. Firemen want and get the best in Janesville suits.

Comfort • Finest Material • Rugged Construction • Custom built coat and sleeve lengths •

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BE IN TOUCH AT ALL TIMES!

NEW! FOR YOUR AUTO

F. M. RADIO RECEIVERS FOR FIRE CALLS

"FIRE-PAL" 152-162 MC. (5" x 5" x 10")

"FIRE-REPORTER" 30-50 MC.

Specify desired frequency-1.3 MC. Band Width

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POST PAID

Money back guarantee

Features:

- Drift-Free
- Squelch Control
- Narrow Band
- 8 Tubes
- 5 Inch Speaker

HOME/OFFICE RECEIVER 37.50

Harron Labs

42-10 220TH ST. • BAYSIDE 61, N. Y.

cal terminology, to understand ways by which noxious substances enter the body and exert their harmful effects, and to know the basic principles of first-aid treatment.

Cotta Transmission Co., Rockford, Ill., has published a new eight-page brochure describing its heavy-duty transmissions which are available for use in crash trucks and similar apparatus.

The Bilco Company, New Haven 5, Conn., has published its 1960 12-page catalog describing horizontally hinged "spring-assisted" access doors. Included are roof scuttles, smoke hatches, ceiling access doors, etc.

New Ward LaFrance Models

Ward LaFrance Truck Corp., Elmira Heights, N. Y., has announced a new line of pumpers called "Premium Custom." The introduction of the 16 different models is said to have brought the cost of custom-built apparatus down to the range of comparable commercial trucks.

Features claimed include an all-steel "Add-A-Top" roof which converts an open cab into a closed seven-man cab in minutes, cab-over-engine design, three inspection covers on booster tanks, maximum compartment space, short wheel base and over-all length. The design is also said to permit easy adaptation to a wide range of interchangeable options.

First Air-Foam Sprinkler Installed in Airline Hangar

"Automatic" Sprinkler Corporation of America recently installed the world's first air-foam sprinkler system in a commercial airline hangar, it is claimed. In a six-minute acceptance test in Canadian Pacific Airline's 36,000-square-foot Vancouver hangar, 450 of the system's 600 foam-water sprinkler heads were used to discharge 220,000 gallons of air foam, covering the whole area with a 6-inch-thick blanket of foam which remained until washed away with fire hoses.

Although not mandatory for minimum building protection under N.F.P.A. standards, the air-foam installation was made because the hangar often contains as many as three $3.5 million Bristol Britannias carrying up to 16,000 gallons of fuel each.

"Automatic" has available a 15-minute, color, sound film, showing the actual operation of a 60,000-gpm mechanical foam-water system. The film also portrays the advantages of such a system applicable in the chemical, utility, aircraft and general manufacturing industries where the use of flammable liquids present special hazards. Requests for viewing, and inquiries concerning the film, should be directed to R. J. Buchanan, manager special hazards, the "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. □□

"HOT FIRE" TRAINING

Continued from page 309

smoke, and the invaluable, first-hand experience of working in close quarters and facing intense heat.

Pre-fire planning

This experience is supplemented by "dry runs" in the high-value district to develop precision and coordination. A building is selected in which a fire, once started, would be difficult to extinguish; one that is difficult to approach; or that presents special problems in entry, evacuation, or flammable contents.

In an initial survey of the building, firemen and officers note all significant features such as doors, windows, skylights, electric panels, stairways and contents. After careful observation, paper and blackboard diagrams of the building are studied in classroom and planning critiques.

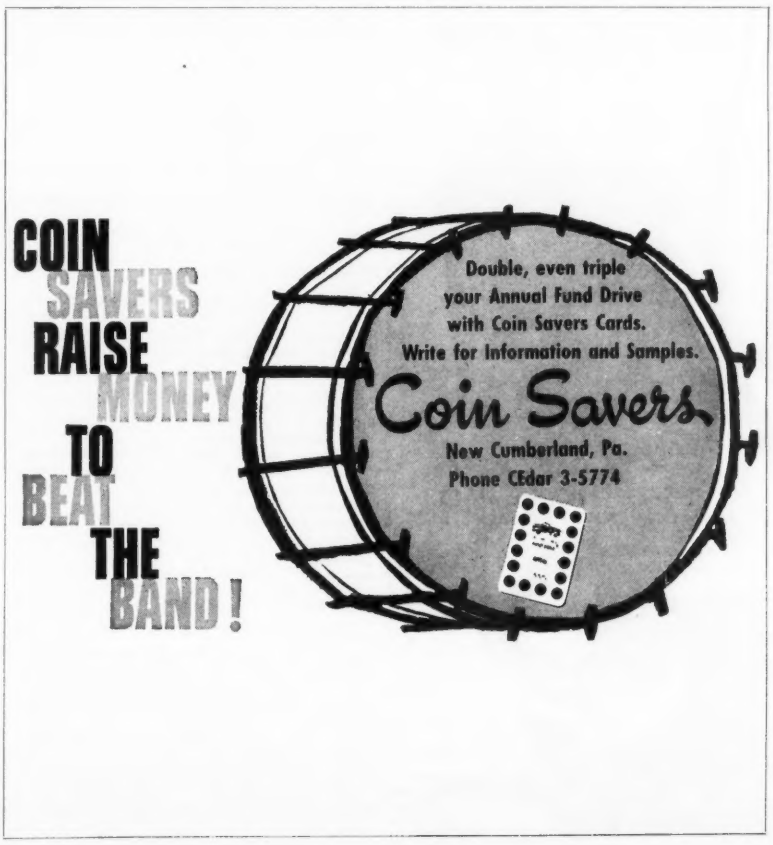
A plan of action, describing in detail the operations of each company, is then mimeographed. This includes information on construction, occupancy, vertical and horizontal openings, roof access and special precautions to be taken. A diagram showing the main features of the building and its exposures is attached to the plan. Each man is instructed in his first and second line assignments and exactly how the attack will be coordinated and carried out.

When final arrangements have been completed with the property owner or manager, a practice run is held just as if there were an actual fire. Afterward, in a thorough analysis, mistakes are pointed out and necessary changes in procedure are planned and studied. Managers and owners of property in the fire zone are eager to cooperate in this planned fire fighting, for they know that it may help to prevent larger losses in the event of actual fire.

Burlington is credited with having a well-trained fire department. This reputation has been gained only through serious and severe training, planned and carried out under situations as close to actual fire conditions as possible. □□

New Extinguisher Chemical

The U. S. Army has announced development of a new chemical compound which is said to be twice as effective in extinguishing liquid fuel and electrical fires as other agents. Monobromotrifluromethane is mixed with helium or nitrogen which creates a combustion-free atmosphere when applied to dangerous fires.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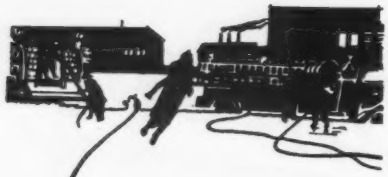

TOO MUCH DEPENDS ON YOUR FIRE HOSE!

keep it clean, keep it safe, keep it longer... with

Bi-Kleen®

BI-KLEEN is a safe, non-toxic cleaning and protection agent for all cotton, rubber-lined hose.

Amazingly *fast* on oil, dirt and grease. Keeps hose racks, truck beds, even rough cement floors "*inspection* clean" with *less scrubbing!*

Sold by the makers of the finest fire hose in the world—Bi-Lateral, flat-folding, non-creasing fire hose.

Bi-Lateral®
FIRE HOSE CO.
20 N. WACKER DRIVE • CHICAGO 6, ILL

What's Burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from February 20th to March 20th.

Cullman, Ala.—Steele Furniture Co. store destroyed.

Florence, Ala.—Kreisman's Ladies Shop destroyed; adjacent Kreisman's Men's Shop and Mangel's Women's Shop damaged.

Tuscumbia, Ala.—Apartment dwelling of William Borden, being remodeled, damaged.

Colusa, Calif.—J. J. O'Rourke Department Store damaged.

San Francisco, Calif.—Hyde Medical Building damaged.

San Pedro, Calif.—Matson Wharf in Los Angeles Harbor damaged.

Sausalito, Calif.—Madden & Lewis Boatyard, dwelling and ceramics plant, destroyed.

Ansonia, Conn.—Snedeker & Co. textile firm damaged.

Bloomfield, Conn.—Center Fire House damaged.

Bridgeport, Conn.—ABC Bowling Alleys in former theatre building badly damaged.

Norwich, Conn.—American Legion Building damaged. Defective refrigerator.

Milford, Del.—Bata Shoe Store, Breraton Drug Store and Quality Market, destroyed.

Wilmington, Del.—Dwelling of Charles A. Kline Jr., Westover Hills, damaged.

Callahan, Fla.—Callahan School for Negroes damaged.

Monticello, Fla.—Supermarket and furniture firm in building north on Thomasville Highway, destroyed; tractor concern damaged.

St. Augustine, Fla.—Dormitory building at Florida School for the Deaf and Blind destroyed. Short circuit.

Tampa, Fla.—Tampa YMCA building damaged.

Winter Haven, Fla.—Firestone Automotive & Appliance Store in uptown district, destroyed.

Atlanta, Ga.—Dwarf House Restaurant on Highway 54 destroyed.

Chickamauga, Ga.—Six stores, including Bill Robertson's clothing store, drug, furniture, variety and hardware stores and apartments destroyed or damaged.

Doraville, Ga.—Motel at 5140 Buford Highway damaged.

Griffin, Ga.—Radio Station WHIE destroyed. Burglars suspected.

Madison, Ga.—Beacon Heights Baptist Church destroyed.

Valdosta, Ga.—J. H. Harvey Supermarket destroyed.

Chicago, Ill.—Congregation Am Echod Synagogue damaged.

Decatur, Ill.—Lincoln Square Tavern, Lincoln Square Cafe, Rambo's Drugs, Walley & Sons Jewelry, Darby's Beauty Salon, Lincoln Theatre and Emerson Piano Shop, damaged.

Jacksonville, Ill.—New Elks Club building considerably damaged.

Pekin, Ill.—Mineral Springs Motel damaged.

Springfield, Ill.—Capitol Bank warehouse heavily damaged.

Waukegan, Ill.—Johns-Manville Products Corp. building destroyed.

East Chicago, Ind.—Sinclair Refining Co. plant damaged. Explosion.

Elwood, Ind.—Golden Garden Tavern, Federal Loan & Savings Co., Local Finance Co., and apartments, destroyed.

Ashton, Ia.—Farmers Elevator Co. feed mill and two adjoining warehouses destroyed.

Estherville, Ia.—Supersweet Feeds grain elevator, mill warehouse and attached buildings, destroyed.

Fairfield, Ia.—American Legion Hall destroyed; adjoining Robinson Plumbing Shop, Pierson Plumbing Co. and Farmer's Tavern, damaged.

Lineville, Ia.—Logan Variety Store building destroyed.

Kansas City, Kans.—Modern Industries Inc., foam rubber firm, damaged.

Kansas City, Kans.—Sheffield steel plant considerably damaged.

Dawson Springs, Ky.—New Century Hotel destroyed.

Edmonson, Ky.—Chalybeate Elementary School destroyed. Arson suspected.

Elkton, Ky.—Allentown Grain Co. building destroyed.

Hebbardsville, Ky.—Peckenpaugh Coal Co. tipple destroyed.

Louisville, Ky.—Bauer's Restaurant and Bar damaged.

Louisville, Ky.—Kentucky Lumber Co. storage shed, two adjacent dwellings and garage, damaged.

Murray, Ky.—Thurmond Feed Mills destroyed.

Owensboro, Ky.—Service Laundry owned by Forrest Medcalf damaged.

Owensboro, Ky.—Four buildings of trucking concern destroyed.

Princeton, Ky.—Beatrice Foods Co. garage and storage room badly damaged.

Alexandria, La.—Brown-Edwards meat packing plant damaged.

Harvey, La.—Fisherman's Inn destroyed. Explosion.

Monroe, La.—Bernice Elementary School destroyed.

Baltimore, Md.—Warehouse and shipping depot of Howard Furniture Co. destroyed.

Baltimore, Md.—Davison Chemical Co. fertilizer warehouse heavily damaged.

Bladensburg, Md.—Southern Oxygen Co. heavily damaged. Explosion.

Cambridge, Md.—Trenton Street building destroyed.

Dundalk, Md.—Henry J. Carstens Paint Co. store heavily damaged.

Dundalk, Md.—Society Cleaners destroyed.

Edgewood, Md.—Army Chemical Center radiological laboratories damaged.

Beverly, Mass.—Seaview Night Club destroyed.

Bristol, Mass.—Dwelling of G. Mason Gross damaged.

Cambridge, Mass.—Bowl-Haven, bowling alley and pool parlor, damaged.

Lawrence, Mass.—Building housing The Round Robin Inn cocktail lounge, Hofbrau Liquor Store, Mel's Shoe Rebuilding Shop and other firms, considerably damaged.

Malden, Mass.—Former Mystic Theatre building housing Bell Shops, women's wear store, damaged.

Revere, Mass.—Beachview Ballroom and Buddy's Cafe destroyed; Lewis Restaurant damaged. Suspicious origin.

Saugus, Mass.—Sears, Roebuck & Co. store under construction, extensively damaged.

Taunton, Mass.—Thompson Paper Co. plant damaged.

Watertown, Mass.—Oakley Country Club badly damaged.

Wellfleet, Mass.—Century-old building housing Town Hall, Police Department and town records, destroyed.

Caro, Mich.—W. N. Clark Canning Co. warehouse destroyed.

Detroit, Mich.—Aurora Refinery on west side, considerably damaged. Explosions.

Montague, Mich.—Chimont Machine Products Co. plant damaged.

Niles, Mich.—White's Bowling Lanes damaged.

Brainerd, Minn.—Downtown Opsahl Building, housing Akre Bakery and several offices, destroyed; adjoining Sundberg Furniture Co. building damaged.

Kansas City, Mo.—Two-story building housing Bruntson Instrument Co. damaged.

Weldon Spring, Mo.—Army Reserve Training Center barracks and dining hall badly damaged.

Elmer, N. J.—Building housing Pioneer Food Store supermarket, offices and meeting rooms, and adjoining gift shop, destroyed.

Gloucester, N. J.—Monmouth Street Elementary School and St. Mary's Roman Catholic Church damaged.

Haddon Heights, N. J.—Alba Television & Radio Store, and adjoining Haddon Movers Co. destroyed; adjoining garage building of Walter Pera damaged.

Newark, N. J.—Building housing Pete's Restaurant and Liquor Store, a branch of the National Newark & Essex Banking Co., Franklin Capitol Corp. and Toppers Club, badly damaged.

Penns Grove, N. J.—Penns Grove General Sales and Royal Bar destroyed.

Repauno, N. J.—Chemical processing building at DuPont's Repauno Works destroyed.

Trenton, N. J.—Unoccupied building, formerly housing radio station WTTM, destroyed.

Albany, N. Y.—Apartment dwelling at 58 to 64

THE EFFECTIVE WAY TO CLEAR SMOKE FROM BURNING BUILDINGS

- **Clears Smoke**
- **Helps Locate Flames**
- **Reduces Damage**
- **Reduces Odor**

This fan is constructed for trouble-free service. The 16 inch 3-blade propeller gives unmatched air moving capacity. It may be used as a blower or exhauster and can be in a vertical or horizontal position.

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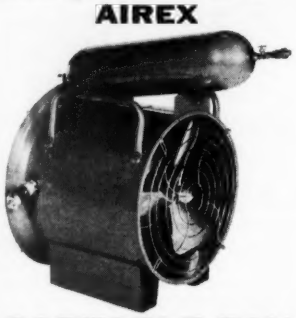

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30 Years in the Air Moving Equipment Industry
1238 Speer Boulevard Denver 4, Colorado

MAGNA-VAC

Magnetic—Sticks Like Glue

New **360° Revolving WARNING LIGHT**

SELLING LIKE HOT CAKES!
No one can believe the price!

What a light! Plugs into cigarette lighter. Holds like grim death. Six magnets. Silent motor. Revolving reflector. 60 powerful flashes a minute. Red, blue, or amber dome. Ideal for wreckers, service cars, ambulances, volunteer fire and police at a price they can afford. 7" tall, 5" dia.

ASK YOUR JOBBER OR WRITE US TODAY!

TRIPPE MFG. CO., Dept. FE
133 N. Jefferson St., Chicago 6, Ill.

Elizabeth St. and 64 Alexander St., including Elite Grill, badly damaged.

Albany, N. Y.—Robelotto Appliance Store extensively damaged.

Colonie, N. Y.—Northway Television & Radio Co. store considerably damaged.

Colonie, N. Y.—Terminal Hardware Co. store damaged.

Poughkeepsie, N. Y.—Main Street building housing Kay's Dress Shop and apartments, damaged.

Rockville Center, L. I., N. Y.—Chan's Casino, adjoining Laundramat, Dynamic Mfg. Co. and Holiday Bell Corp., damaged.

Schuyler Corners, N. Y.—Cortland Baking Co.'s "Cobakco" bakery destroyed. Backfire from truck.

Volney, N. Y.—Building housing bowling alley and restaurant damaged.

Asheville, N. C.—M. V. Moore Co. clothing store destroyed; adjoining Marilyn Shoe Store and J. J. Newberry Co. damaged.

Benson, N. C.—Sputhland Mfg. Co. damaged. Short circuit.

Gastonia, N. C.—Piedmont Motors considerably damaged.

Henrietta, N. C.—Burlington Mills Corp. cotton warehouse and nearby railroad car damaged. Spark from hoist motor ignited cotton.

High Point, N. C.—Triangle Upholstery Co. building destroyed.

High Point, N. C.—Wilson Knob Co. heavily damaged. Furnace explosion.

Jacksonville, N. C.—Furniture Fair Store destroyed.

Louisburg, N. C.—Franklin County Training School building destroyed.

Wilmington, N. C.—Western Auto Appliance Store damaged.

Akron, Ohio—Building housing Fallon's Kiddie Land Park and amusement devices damaged.

Cincinnati, Ohio—Radel Trucking & Concrete Block plant destroyed. Acetylene torch spark.

Cincinnati, Ohio—Waldorf Apartments damaged.

Cleveland, Ohio—Hilltop mansion of Charles Wesley Williams damaged.

Findlay, Ohio—Downtown YMCA building damaged.

Walnut Creek, Ohio—Warehouse, grocery and residence destroyed. Gas flare up.

Marietta, Okla.—Cafeteria and gymnasium at Greenville Center School destroyed.

Astoria, Ore.—Astoria Girls School destroyed.

Coos Bay, Ore.—Michigan Avenue Grade School destroyed. Incendiary.

Eugene, Ore.—Dale Smith Clothing Co. destroyed; Hoffman Hotel damaged.

Portland, Ore.—Coast Electric & Mfg. Co. damaged. Arson reported.

Portland, Ore.—Columbia River Marine Equipment destroyed.

Portland, Ore.—Greenwood Apartments destroyed.

Doylestown, Pa.—Barn on Vincent Neamand farm, three miles west, destroyed. Lightning.

Dry Tavern, Pa.—Palone's Garage destroyed.

Lansford, Pa.—Breaker at Lehigh Coal & Navigation Co. damaged.

Lock Haven, Pa.—Business district buildings, housing High & Keister Electrical Store, Evelyn's Kute Kiddies Shop, Sohmer Amana Food Freezer Co. store and Pennsylvania Realty, destroyed.

Philadelphia, Pa.—Elbee Shoe Store heavily damaged.

Philadelphia, Pa.—Cramco Inc. destroyed.

Philadelphia, Pa.—Delaware Valley Hair Corp. plant destroyed.

Philadelphia, Pa.—Phil's Used Auto Parts destroyed; Pennsylvania Railroad trestle damaged.

Philadelphia, Pa.—Liquid Carbonic Division of General Dynamics Corp. heavily damaged. Hydrogen gas explosions.

Philadelphia, Pa.—PM Truck Rental garage building destroyed. Explosion.

Rouseville, Pa.—Pat-N-Wood Co. factory damaged.

Sharpsburg, Pa.—Madonna of Jerusalem Roman Catholic Church damaged.

Springgetsbury, Pa.—Larami Metal Co., Larami Associates Inc. and Arco Auto Carriers, destroyed. Propane gas explosions.

Tacony, Pa.—Two chemical storage buildings of Columbian Carbon Co.'s Martin Lampblack Division, destroyed. Forklift truck spark on chemical.

Please turn page

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West Conshohocken, Pa.—Sealview Plastic Co. destroyed. Switchbox explosion.
Providence, R. I.—Building housing upholstery firm of Abraham Adler heavily damaged.
Anderson, S. C.—Vatrice Motel destroyed.
Charleston, S. C.—Piggly-Wiggly Supermarket heavily damaged.
Kingstree, S. C.—Building housing Wakim's Grocery, barber shop, cafe and confectionery shop, destroyed.
Lake City, S. C.—Dixon Sawmill destroyed.
Manning, S. C.—Manning Presbyterian Church badly damaged.
Mc'Cormick, S. C.—P & S Motor Co. destroyed. Firm also handled appliances, feeds, etc.
Spartanburg, S. C.—Beaumont Mfg. Co. warehouse damaged.
Etowah, Tenn.—Barn of R. Harper Wilson, housing 13 prize horses, ponies and equipment, destroyed.
Memphis, Tenn.—Friedman's Fashions destroyed; adjoining buildings damaged.
Waco, Tex.—Elite Cafe, Stein Clothiers, J. C. Penny Department Store, Lee Optical Co., McCrory's Department Store and Fox Photo Studio, damaged.
Salt Lake City, Utah—Plasticove Inc., and attached Lace Distribution Co. damaged.
Cashmere, Wash.—Vale Theatre destroyed.
Pasco, Wash.—American Legion Hall destroyed. Exploding grease.
Sumner, Wash.—Taylor Furniture Co. destroyed.
Vancouver, Wash.—Ridgefield Junction Service Station destroyed.
Clemendin, W. Va.—Dwelling and adjacent horticultural center of Dr. O. M. Harper damaged.
Bayfield, Wis.—Sportsman's Lodge destroyed.
Janesville, Wis.—Building housing drug store, pool hall, and printing company, destroyed.
Milwaukee, Wis.—Building housing drug store, pool hall, and printing company, destroyed.
Vancouver, B. C.—Irish Fusiliers Armory, Stanley Park Landmark, destroyed.
Shediak, N. B.—Business block, housing Bank of Montreal, clothing store, restaurants and apartments, destroyed.
Midland, Ont.—Downtown building housing Midland Business College, People's 5¢ to $1 Store Ltd., offices and apartments, destroyed; adjacent drug store and apartments damaged.
Toronto, Ont.—Gill Interprovincial Truck Lines yard, housing trucks and tractors, considerably damaged. Arson.
Gatineau, Que.—International Fiber Board Co., subsidiary of Canadian International Paper Co., destroyed; four railway boxcars on siding damaged.
Lachine, Que.—Superior Propane Ltd., gas manufacturing plant and storage depot, destroyed. Explosions.
Montreal, Que.—Art Centre of Montreal Museum of Fine Arts severely damaged.
Quebec City, Que.—Two-story building and adjoining Hotel Louis XIV, housing factory, store and apartment, destroyed.
Verdun, Que.—Historic Maison des Soeurs on Nun's Island, former haven for nuns of Congregation of Notre Dame, destroyed. □□

February Fire Losses

Estimated fire losses in the United States during February amounted to $96,782,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $96,782,000 loss represents a decrease of 1.4 per cent from losses of $98,120,000 reported for February 1959, and an increase of 4.1 per cent over losses of $92,949,000 for last January.

Losses for the first two months of 1960 now total $189,731,000, a decrease of 10.1 per cent from the first two months of 1959, when they amounted to $211,103,000.

These estimated losses include an allowance for uninsured and unreported losses.

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ST. PAUL

Continued from page 316

the house through the side door but, because of the layout of the rooms and the heavy smoke, crawling into the kitchen led them no nearer the fire. (The fire was in a rear bedroom on the other side of the house. To reach the fire from the side door, the firemen would have had to crawl through the heavily charged kitchen towards the front of the house and then make a sharp right turn and advance to the bedroom at the left, rear, of the house.)

When the district chief visited the occupant of the house and explained the conditions facing the firemen, the occupant agreed that repairing a door was a minor matter compared to losing time trying to locate a fire progressing at the rate of $50 per minute.

Most of the letters comment on the prompt, efficient and courteous services rendered. One hotel manager wrote, "Your department was here promptly . . . to take care of the situation with a minimum of effort giving assurance to our guests and employees that they are in complete command of the situation." A homeowner wrote: "I don't know how to express the gratitude we feel and also the feeling of security we have in knowing we have such an efficient fire department standing by in case of emergency."

Burning of Condemned Homes Makes Training Realistic

The Los Angeles City Fire Department has burned approximately 60 homes over the past two months. The homes were condemned, and on property which will become the extension of the Van Nuys Airport. The "burnings" were made possible through the cooperation of the L. A. Department of Airports.

Besides getting rid of the homes on the scene without the cost of removal, the program permitted the Los Angeles Fire Department to use the homes for training purposes under actual fire conditions.

All companies in the Valley Fire Division participated in this training which started on January 19, and will continue daily (weather permitting) until all the homes are gone.

The fire companies to be trained report on the scene at approximately 9 a.m. each day for their verbal instructions; firing of the homes begins about 10 a.m. The companies respond to the particular house fire under simulated emergency conditions. They have a definite fire problem presented to them, and they are expected to react accordingly and extinguish the fire. After lunch the same house is again ignited and later allowed to burn completely.

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Questions and Answers

Finding Water Flow

To the Editor:

Is it possible to determine the water flow in a line of 2½-inch hose if the friction loss is known? **P. C.**

Answer: Water flow in 2½-inch hose lines can be calculated with fair accuracy when the friction loss per 100 feet of hose is known by use of the formula:

$Q = \frac{1}{2}\sqrt{2FL - 0.25} - 0.25$

Q equals the quantity in hundreds of gallons per minute.

The formula may be simplified without serious loss of accuracy to:

$Q = \frac{1}{2}\sqrt{2FL} - 0.25$

Example: Find the flow in gallons per minute when the friction loss in 100 feet of 2½-inch hose is 13 psi.

$Q = \frac{1}{2}\sqrt{2 \times 13} - 0.25$
$= \frac{1}{2}\sqrt{26} - 0.25$
$= \frac{1}{2} \times 5.1 - 0.25$
$= 2.55 - 0.25$
$= 2.30$
$= 230$ gpm

(See "Fire Service Hydraulics," page 57.)

Carbon Disulfide

To the Editor:

The following appeared on a promotional examination: "If faced with a fire involving carbon disulfide, the preferred extinguishing agent to use would be: (a) Water; (b) carbon dioxide; (c) foam; (d) dry chemical.

What would your answer be? **M. F.**

Answer: Our answer would be (a). Carbon disulfide can readily be extinguished with properly applied water. The use of carbon dioxide and dry chemical may be difficult due to the ease of reignition of the material due to hot surfaces. Foam may permit the vapor of the liquid to escape through the blanket and burn above it. (See *Handbook of Industrial Fire Protection,* Factory Mutual, 52-3.)

Filling a Reservoir

To the Editor:

During an emergency drill planning session, the subject of a water supply pumping station failure was explored. Our planned solution included a pumper and two parallel lines of 2½-inch hose discharging through open butts into the top of a standpipe elevated 60 feet. The engine pressure would be maintained at 150 psi.

How many gallons of water could be pumped in eight hours with this layout? **W. S.**

Answer: Find the nozzle pressure (open butt) for a single line using Underwriters formula. Then use the discharge formula to find gpm for a single line. Multiply by two for total gpm and multiply by time to find total flow.

N. P. = E. P. ÷ (1.1 + KL)

Engine pressure in this case equals 150 − back pressure.

E. P. = 150 − (60 × .434)
= 150 − 26 = 124 psi

K for open 2½-inch butt is 3.35

L = 300 ÷ 50 = 6

N. P. = 124 ÷ (1.1 + [3.35 × 6])
= 124 ÷ (1.1 + 20.1)
= 124 ÷ 21.2
= 5.8 psi

Discharge $= 29.7 \times D^2 \times \sqrt{P}$

0.90 is the coefficient of discharge for open 2½-inch butt.

Discharge $= 29.7 \times 2.5 \times 2.5 \times \sqrt{5.8} \times 0.90$
$= 29.7 \times 6.25 \times 2.41 \times 0.90$
$= 29.7 \times 6.25 \times 2.17$
$= 29.7 \times 13.6$
$= 404$ gpm

404 × 2 = 808 gpm

808 × 480 minutes = 387,840 gallons total □□

Publications Available

FIREMANSHIP I, first of a new series of training manuals published by Tecco Laboratories, P. O. Box 541, Branford, Conn., contains broad general information on operational fire fighting techniques by Captain Carl N. Bruns, Branford Fire Department. Consisting of about 60 pages and a paper cover, it is available for $1.25 per copy.

LIVING WITH RADIATION, PART II, FIRE SERVICE PROBLEMS, has been published by the U. S. Atomic Energy Commission. Containing lectures and other materials provided in the Commission's three-day Public Safety Instructors Course, this publication complements Part I previously published, and the two parts comprise a complete book. All persons who have attended the course may obtain a copy by writing to Francis L. Brannigan, Safety and Fire Protection Branch, U. S. Atomic Energy Commission, Washington 25, D. C. Others may purchase it from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Part I sells for $.45; Part II for $1.00.

THE CHEMICAL INDUSTRY FACTS BOOK, Fourth Edition, available from Manufacturing Chemists' Association, Inc., 1825 Connecticut Ave., N.W., Washington 9, D.C., Single copy price $1.25. This 165-page paperbound booklet describes the chemical industry in the United States; how the industry operates, and the role of chemicals in everyday life. A particularly informative section covers: Chemicals and Defense, Chemicals and Nuclear Energy and Chemicals and Space. □□

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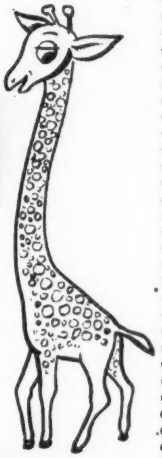

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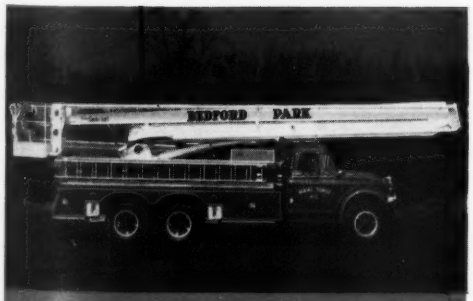
NEERING

Why the Village of Bedford Park bought this

65-foot PITMAN SNORKEL



- ★ 1,000 lbs. capacity, any boom position
- ★ One hand controls all boom movement from basket
- ★ Choice of dual controls on ground or on turntable
- ★ Ground-to-platform communication system
- ★ Hydraulic, self-locking "A"-type outriggers
- ★ No back pressure problem on platform when throwing water
- ★ Continuous 360° rotation
- ★ Choice of 50', 65' and 85' models
- ★ Can be installed on a truck of your choice
- ★ 3½" water supply to dock pipe on platform
- ★ Various styles of bodies, mid-ship pumps, etc., can be used

Incorporated in the Village of Bedford Park, Illinois, are a number of major industrial installations. Vast tank farms nearby store everything from benzine to molasses. Chief Gil Husch and his 18-man department have fought fire there – as well as in buildings of four or five stories – under very hazardous conditions.

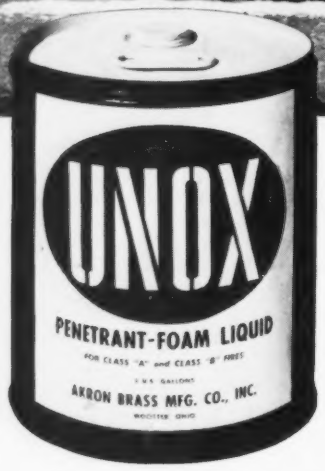
"We need the reach of that seven-story Snorkel," says Chief Husch. "It puts our men up high – or way back in, over low-rise structures, to lay fog and water right at the source of fire . . . no matter where it is.

"Our men are volunteers, and good ones," Husch asserts, "but they're also my friends and neighbors. I want to make sure they get back in good shape – every time." When Chief Husch saw the Chicago Fire Department's Snorkel No. 1 in action, he knew Bedford Park had to have one as well!

John Hapke, Superintendent of Public Works, agreed . . . and the Village's Snorkel was purchased jointly by his Department and that of Chief Husch. It's based at the Fire Station, of course, and there's no question of priority. But in its "spare time," this Snorkel also trims trees, maintains the street lighting system, puts men and materials aloft wherever there's work to be done. The "Bedford Park Plan" has worked well. Perhaps a similar approach could help provide *your* community with the finest fire-fighting equipment of all – a Pitman Snorkel. For full details, write . . .

Snorkel **FIRE EQUIPMENT COMPANY**

Department FE-4 • Grandview, Missouri



ONLY

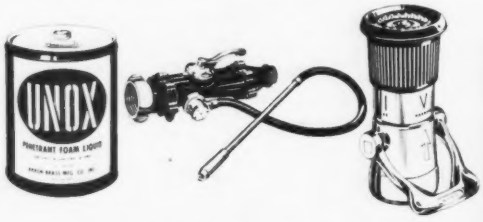
UNOX®

PENETRANT FOAM

has all these advantages:

1. UNOX, the fluid foam, covers fires FASTER for quick extinguishment of Class B or Class A fires.
2. UNOX can be used with *any water* — salt, fresh, alkaline, dirty.
3. UNOX *will not deteriorate* in storage.
4. UNOX *won't freeze* down to —20° F.
5. UNOX penetrates as wetter water, *cools* as it *penetrates, persists* in the presence of fire.
6. UNOX is UL listed.

USE THIS AKRON SYSTEM TO MODERNIZE WITH FOAM



For tough, quick-acting foam or wet-water that cools, smothers and penetrates.

Anyone can make claims. The proof of these statements is in the Underwriters' Laboratory report on Unox. Make sure **your** foam is genuine "Unox."

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FIRE FIGHTING EQUIPMENT

AKRON BRASS MFG. COMPANY, INC., WOOSTER, OHIO • AKRON MFG. (CANADA) LTD., AYLMER, ONTARIO

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